THE UNIVERSITY *of* EDINBURGH

TITLE

VARIABILITY IN THE INTERLANGUAGE OF SHONA LEARNERS OF ENGLISH

A Study into the Effects of Planning Time and Linguistic Context on Interlanguage Performance.

Dedicated to Nonhahla and Dee

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INTRODUCTION

1.0 Aims of the Study

The study has two main aims. The first is theoretical and the second methodological.

Theoretically, the study seeks to investigate the nature and extent of variation in interlanguage with the aim of identifying and assessing the extent to which factors such as discourse mode (e.g. narrative vs descriptive) and linguistic context are likely to result in variable interlanguage performance.

Methodologically, the study seeks to highlight the problems of eliciting valid interlanguage data using the concept of planning as is currently formulated by Ochs (1979) and Ellis (1987).

Although interlanguage performance may be shown to be variable it still remains important to assess how widespread variation is in interlanguage, because variation is likely to shed much more light on interlanguage development and use, if it is demonstrated that it is neither restricted to specific structural areas nor typical of learners at particular stages of interlanguage development. With this in mind this study investigates the performance of second language learners at three different levels of proficiency in two linguistic areas - spatial and directional prepositions and the 3rd person singular.

Variation in interlanguage has been attributed to a large number of factors some of which are enumerated below - discourse mode, varying planning conditions, topic, setting, interlocutor, linguistic context etc.

This study however restricts itself to an investigation of only two of these factors i.e. planning time and linguistic context. One of the aims of the study is to examine performance by second language learners on pre-selected structures produced within the same type of discourse in which planning conditions are varied so as to elicit **unplanned speech** and **planned writing** respectively. The intention is not only to see if the performance of the subjects is sensitive to differences in planning conditions but to investigate whether the level of grammatical accuracy of second language learners improves with the availability of more planning time.

A simple definition of planning is used. Discourse is regarded as unplanned, if the language user has a limited amount of time to determine the content and ways of expressing that content (Ellis 1987). Conversely, discourse is planned when the language user has had opportunities of determining the content and ways of expressing that content before the execution of a discourse plan.

Another main aim of the thesis is to examine the effects of different linguistic contexts on interlanguage grammatical accuracy. This involves examining whether there are some linguistic contexts which attract more target language variants than others.

An attempt is also made to see if there is any connection between planning time and linguistic context. This is done by investigating the probability of second language learners using the same variant/s in a similar linguistic context in unplanned speech and planned writing, it is important to see if there is any interaction between linguistic context and planning time,

because most studies look at the effects of different linguistic contexts in the same discourse type (See Ellis 1988; Young 1988) and not at the **same** linguistic context in discourse produced in **different** planning conditions.

To sum up, theoretically the thesis aims at investigating the effects of the following factors on interlanguage variability:

(i) Unplanned speech/planned writing.

(ii) Linguistic context.

(iii) The interaction between linguistic context and planning time.

(iv) Structural areas i.e. the 3rd person singular and prepositions.

(v) Stage of proficiency of the subjects.

1.1 Methodological Considerations

Given the potential contribution variation is likely to make towards an understanding of interlanguage development, it is important to take a closer look at some of the elicitation techniques which have been used in eliciting variable interlanguage data. This is done by focussing mainly on the advantages and disadvantages of using the concept of planning time to investigate variation.

The study seeks to argue that, on the one hand, by equating the degree to which discourse is planned with the amount of time available Ellis (1987) partially overcomes the problem of using the construct of attention-to-speech as a basis on which tasks are compared.

But at the same time the thesis argues that the construct

of planning as currently formulated and operationalised in empirical interlanguage studies underestimates problems of eliciting valid data particularly if the researcher intends to elicit unplanned speech.

One way in which unplanned speech is elicited is by asking second language learners to describe a series of pictures (See Ellis 1987). But it is argued that the presence of cartoons in front of a second language learner do not contribute much towards creating an informal atmosphere. Because the learner perceives the situation as formal he is likely to exploit his most advanced interlanguage knowledge which is relatively more planned than the researcher intends. This is not to say that discourse which is elicited in formal situations is always planned (See Chapter Two, Section 2.4.2 which examines the relationship between planned discourse and a formal situational context).

One way in which the problem of eliciting unplanned discourse may be overcome, it will be argued, is through a reconceptualisation of the concept of planning to take into account the possibility that psycholinguistically the degree of plannedness in speech in an extended piece of discourse fluctuates with opening segments of a piece of discourse being more highly planned than middle segments and middle segments being more highly planned than final segments.

The degree of plannedness of speech is also independently assessed using "temporal variables" such as rate of articulation. This thus makes it possible to investigate how the level of the learner's grammatical accuracy is affected by his rate of articulation.

In brief methodologically the study is a reassessment of

particular elicitation procedures used in Second Language Acquisition.

1.2 Structure of the Thesis

A description of the structure of the thesis simultaneously indicates its scope.

Altogether the thesis contains eight chapters. In Chapter Two research in SLA is reviewed focussing specifically on variability and some of the more important models which are proposed to account for variability. The chapter concludes by proposing a framework which it is argued is both methodologically sound and is consistent with what is known about interlanguage variation.

Chapter Three provides a sociolinguistic description of the subjects and outlines the criteria used for selecting subjects in the study.

Chapter Four has three main aims. First, it identifies the structural areas which are investigated and secondly, it also provides a rationale for the selection of the structural areas which are investigated. Finally, the chapter provides a linguistic description of the two areas and hypotheses are formulated on the basis of the linguistic description.

In Chapter Five the tasks are outlined and details of the administration and a rationale for the sequencing of the tasks is also given.

Chapters Six and Seven contain the discussion and interpretation of the results on the 3rd person singular and prepositions respectively.

The final chapter, Chapter Eight, contains a brief summary

of some of the more important findings of the study in regard to the hypotheses formulated in Chapter Four. Following this, procedures on how some of the data can be further analysed to identify more sources of variability are outlined and implications for future research are also examined.

CHAPTER TWO

A literature review of variability in Second Language Acquisition

Scope of the Review

2.0 Introduction

The review falls into three main parts. The first part takes a brief look at some of the early formulations of a learner system (Corder 1967, 1971; Nemser 1971 and Selinker 1969; 1972). The review shows that although the theorists are all agreed on the existence of a learner-system they have adopted different perspectives on the nature of a learner-grammar, and placed minimum emphasis, if any at all, on synchronic variation.

The second part takes up the issue of variation and illustrates the problems of incorporating the notion of variation within a system made up of invariant rules, or rules alternating within a system unless a reconceptualisation of the system is made away from a system made up of categorical rules towards one made up of not only categorical rules, but variable rules as well i.e. variable competence (Tarone 1983; Ellis 1985, 1989). The section identifies the type of variation which the study is interested in. The study is interested in variation which is **internal** to the learner at one **point in time** and is within the same code. Variation due to linguistic context is one such type of internal variation, because it shows how some parts of a learner's system are affected by others (Beebe and Giles 1984; Tarone 1988). A number of empirical studies at the levels of phonology, morphology, syntax etc. are reviewed showing that variation is systematic. The review also shows that variation

can be random and that random variation is important in understanding interlanguage (IL) development, (Huebner 1983, Ellis 1984, 1985, 1987, 1989).

The third section is the final and most important part of the review. After having shown that variation is potentially systematic it takes a closer look at a number of theoretical approaches to variation e.g. Discourse Domain theories (Selinker and Douglas 1985; Cornu and Delhaye 1987); the Capability Continuum (Tarone 1983, 1985, 1985) Speech Accommodation theories (Beebe and Zuengler 1983).

The review shows that there are problems both of a theoretical and methodological nature with some of the models of variation in Second Language Acquisition (SLA). For example, the Capability Continuum suffers from the theoretical and methodological problem of independently determining how much attention to-speech a learner pays in each task. This is particularly important in a model which attributes variation to the differing degrees of attention paid to speech in various tasks.

In the light of these theoretical and methodological problems a framework exploiting the concept of "speech planning" is proposed (Keenan, 1978; Ochs 1979, 1979; Ellis 1985, 1989). This framework not only distinguishes between unplanned and planned discourse, but identifies different degrees of **plannedness** within the same type of discourse during production using "temporal variables" such as repetitions, self-corrections etc. (Fathman 1980; Raupach 1980). It is argued that the framework goes some way to overcoming some of the problems associated with the models of variation reviewed earlier in this

chapter. For example, unlike the Capability Continuum the proposed framework can independently determine the amount of planning using the construct of "pre-speaking time" Skehan (1987).

2.1 Perspectives on the Nature of a Learner System

After presenting an outline of the literature, the aim of this section is to describe three perspectives concerning the nature of an IL system.

In a series of programmatic articles, Corder (1967), Selinker (1969, 1972) and Nemser (1971) used the terms "idiosyncratic dialect", "interlanguage" and "approximative system" to describe a learner-system. In all three formulations the learner-system is regarded as rule-governed and systematic, a position which has acquired the status of an axiom in SLA (see Young 1988).

The aim of this section is to describe these three perspectives. The perspectives can be described as falling into two main extreme positions with Nemser's position situated somewhere between Selinker and Corder's positions. Selinker (1969, 1972) places a lot of emphasis on fossilisation. Consequently, he sees the learner's system as stabilising at some stage before a learner reaches native speaker competence. Corder's position (1978, 1981) is different because for him the learner system is continuously evolving towards the target language (TL) unlike Selinker's. Nemser's position falls somewhere between the Selinker and Corder position because the learner-system for Nemser is continuously approximating the TL like Corder's developmental continuum on the one hand,

but on the other hand, it is discreet and temporarily stable like the IL system (Selinker 1972).

2.1.1 The Interlanguage Hypothesis

For Selinker (1972) IL is a "separate linguistic system based on the observable output which results from a learner's attempted production" (p 35). He attributes the construction of the learner-system to five central cognitive processes; (1) transfer (2) transfer of training (3) overgeneralisation (4) learning strategies and (5) communication strategies.

Selinker situates the learner-system in an intermediate position between the native language (NL) and the TL. The fact that the system is in between the NL and TL shows that for Selinker the learner system is partially distinct from both the NL and TL. The psychological evidence for the existence of an autonomous underlying system lies in that during production the utterances the learner makes are different from either the ones he would have made when expressing the same meaning in the NL or the ones the native speaker would have made if expressing the same meaning in his mother tongue. Thus, there are three different types of psychologically relevant data necessary for understanding second language learning: the NL, the IL and the TL.

The salient feature of a learner system is its likelihood to fossilise. There are so many learners who fossilise that the few who reach target speaker competence can be disregarded as atypical of the average language learner (Bley-Vroman 1988). In other words, the ideal language learner is one who fossilises. Fossilisation may be attributable to a large number of factors, such as the loss of permeability (Adjemian 1976) or the type of

feedback the learner is receiving (Vigil and Oller 1976). In a cybernetics model such as the one Vigil et al are working in, learners are likely to fossilise when receiving **positive, affective** and **cognitive** feedback, and when their instructional and communication needs have been met (Schumann 1978). A good example of fossilisation is the retention of a foreign accent.[1]

Fossilisation results in the process of language learning stopping before a learner reaches TL competence (Selinker 1972, Klein 1986). Because of fossilisation the Il system stabilises and consequently does not evolve towards the TL. Fossilisation has two potentially contradictory effects on the IL system's variability. On the one hand, when fossilisation sets in, the system loses its potential to vary because the use of fossilised forms involves using a single rule in IL competence. On the other hand, fossilisation is likely to result in variation, (albeit of a restricted nature) when a learner slides back to an earlier IL norm (Selinker 1972). The resulting backsliding may last for a few sentences in which the speech of a relatively fluent learner is characterised by an increase in "error" when, for example, in English the learner ignores appropriate inflectional endings of nouns and verbs (Klein). Backsliding occurs in psycholinguistic conditions of extreme stress, excitement and interestingly when a learner is relaxed. Since backsliding is a subset of fossilisation, it appears that fossilisation constrains variation when a system stabilises hence loses its potential to vary and at the same time fossilisation facilitates variation when the learner backslides.

Corder (1981) uses the terms backsliding and regression interchangeably, but it is still important to attempt to

distinguish the two terms, because the psycholinguistic operations involved during backsliding and regression are different. In backsliding the learner is unintentionally falling back to earlier forms because of fatigue after a prolonged period of conversation or writing (Klein 1986); in regression the learner is drawing or reintroducing past IL forms into his current dominant system. Rampton (1987) cites examples of Asian adolescents who use constructions of the "me no" type when they can perform more standard versions with specific interlocutors during speech acts in which they are either challenging authority or boasting to peers. By using earlier IL forms they are projecting the status of a learner thus mitigating the effects of potentially anti-social behaviour. Regression is unlike backsliding because the former involves a deliberate use of "inexpert language". It is deliberate and strategic in the "errors" it makes because it involves a pre-selection of forms best suited to project the status of a learner in the mind of a native speaker, unlike backsliding which does not involve a strategic selection of linguistic errors. The definition of regression being used here is comparable to the definition of "formal reduction" proposed by Faerch and Kasper (1984). Regression is similar to the strategy of "formal reduction" because in both cases the learner is using a reduced system.[2]

Because of the central importance Selinker attributes to fossilisation in IL he extends the IL concept to cover children learning the TL in the absence of native speaking peers because the children in the Tarone, Frauenfelder and Selinker (1976) study are likley to fossilise because they are learning a second language without the priviledge of "input" from native speaking

peers. The term IL is usually restricted to adults learning a second language. Since fossilisation distinguishes native speakers from non-native speakers because the former do not fossilise while the latter invariably do fossilise (Selinker 1972 Bley-Vroman 1988) the language of the children in the Tarone et al research can therefore be described as an IL.

To sum up, Selinker's IL hypothesis places a lot of emphasis on fossilisation and consequently views IL as stable, but the hypothesis does not exclude potential variation arising from backsliding.

2.1.2 Approximative System

An approximative system is a "deviant linguistic system actually used by the learner when attempting to utilise the TL" (Nemser 1971:116). Nemser accredits each **approximative** system with two main features which are briefly summarised below:

(i) Each approximative system is structured and cohesive. The system is made up in part of some features isomorphic with the TL, and others unique to the IL. It is the knowledge at the disposal of the learner during the point when the data are elicited which constitutes each approximative system.

(ii) A learner's language system involves movement through a series of distinct approximative systems towards the TL.

Nemser posits that language learning consists of a movement through a series of approximative systems towards the TL. Language learning therefore consists of a movement towards the TL.

Each approximative system is temporarily stable and is consequently distinct from other approximative systems either

preceding or following it. The temporary nature of the stability of each system is clearly evident in the unusual rapid reorganisation which takes place during production. It is important to stress that Nemser perceives the rapid reorganisation as taking place during production and does not extend it to linguistic intuitions. A number of factors have been identified as potentially resulting in variation in intuitions; there are context of presentation of sentences, the type of subjects involoved in the experiment i.e. whether they are naive or linguistically sophisticated subjects (Snow and Meijer 1976; Sorace 1988).

By restricting variation to production Nemser does not seriously engage with the notion of a system as underlying knowledge. He seems to have gone for a Chomskian model of linguistic competence with an inappropriate methodology. His notion of a system is influenced by a Chomskian concept of invariant rules. The methodology is inappropriate because primary evidence in Chomskian linguistics comes from intuitional data. At the same time by going for production he opts for a Labovian methodology without necessarily reconceptualising the system to take into account context sensitive rules (see section 2.2.1 for a working definition of context sensitive rules). The problems of variation in Il resulted in Nemser attempting to follow a Chomskian theory of competence using a Labovian methodology. The problems of taking variation into account may partly be attributed to the continuing influence of Transformational - Generative linguistics in early IL formulations.

2.1.3 Idiosyncratic Dialects

There are two main reasons prompting Corder (1967, 1971) to describe the learner system as "idiosyncratic". "Language learner language" according to Corder (1978) is idiosyncratic because it is not a social dialect like the language of native speakers and it is also deviant.

Corder describes IL as "idiosyncratic" because language learners to not share a set of common linguistic and social norms, and even when they do share common norms, the norms are not usually cognitively accessible to the learner (Corder 1973). As a result second language learners do not usually form speech communities (Tarone 1987, 1988).

The language of second language learners is not the only type of "idiosyncratic dialect". Corder (1971) provides a taxonomy which is useful in distinguishing different types of idiosyncratic dialects. One type of idiosyncratic dialect is the language of poetry where some parts are deliberately deviant. An oft-quoted example is the poetry of E. Cummings. The second type of idiosyncratic dialect is the language of aphasics which is pathologically deviant. Idiosyncratic dialects are by nature unstable hence potentially variable. Another alternative term Corder uses to describe learner-systems is "transitional competence." The term underlines the system's potential instability hence its likelihood to vary.

The researcher can construct the learner's "transitional competence" according to Corder (1973) on the basis of systematic errors (competence errors) and the learner's intuitional judgements which Corder claims are usually made on the basis of a learner's IL system. Selinker (1984), however, objects

methodologically to the use of intuitional data. His main and most powerful objection is that learners are likely to make intuitional judgements not necessarily on the basis of their norms. In other words, Selinker objects to the use of grammatical intuitions in SLA because it is difficult to know which norms are being consulted by the learner when making grammaticality judgements, i.e. TL or IL norms. The point about norms is particularly important, because if grammatical intuitions are being used to construct the learner's grammar then the norms the learner is consulting should be the ones forming the basis of his production, and not the norms of the system he is "struggling" with i.e. the TL. The norms the learner is "struggling" with are not directly relevant to the modelling of the learner's IL competence.

Selinker is careful, however, not to underestimate the significance of the contributions of studies carried out using grammatical intuitions (See Selinker 1984)

There are two minor points which ought to be made concerning the definition of "idiosyncratic dialects" used by Corder and the taxonomy separating the language of learners from that of poetry.

Hudson (1980); Le Page and Tabouret-Keller (1982), suggest that the language of native speakers is idiosyncratic to a degree. Each native speaker they suggest is likely to exhibit patterns of usage which are unique because of what Hudson calls each individual's "social experience" arising from the language the speaker has encountered. The assumption is that speakers have different "social experiences" of language.

If the language of native speakers is also idiosyncratic,

it might arguably be more useful to think of the difference between the language of learners and that of native speakers not as one between "idiosyncratic dialects" and non-idiosyncratic dialects, but as one in which both types of languages used by native speakers and non-native speakers exhibit signs of idiosyncracy, with the latter being much more idiosyncratic than the former. It is the high degree of idiosyncracy in learner-systems which is likely to make variation an outstanding phenomenon in IL because learners are likely to have more diverse "social experiences" of the TL more than native speakers.

The other salient feature of an idiosyncratic dialect Corder cites is that language users of idiosyncratic dialects do not readily form speech communities. The problem of defining an idiosyncratic dialect along these lines lies in the definition of a speech community.

The concept of a speech community is hardly a coherent one in Sociolinguistics, Hudson (1980) identifies a number of separate meanings of a speech community. The meanings range from a description of a speech community as one in which speakers share the same language, to one in which speakers not only share the same language, but have similar attitudes to the same language. The point is that although the concept is extremely powerful, if it is not coherent in Sociolinguistics proper, it is likely to be even more controversial when extended to SLA. However, there is an underlying assumption always made from an SLA perspective that learners from a similar background or from the same language belong to the same speech community (Tarone 1987, 1988, Sorace 1988). The idea of learners potentially belonging to the same group suggests that there are norms which

are accessible or at least held in common between some learners. This leads on directly to the classification made by Corder of idiosyncratic dialects. He separates the language of poetry from that of language learners. Rampton cited in section 2.1.1 suggests that second language learners can be deliberately deviant for pragmatic purposes, when they use particular constructions the language of learners is comparable to that of poetry because both are deliberately deviant although the constructions which are deviant in poetry and IL might not necessarily be the same. But the point still remains that both IL and poetry are departing from a set of norms.

Possibly the distinction between classes of idiosyncratic dialects may not be as watertight as thought before after all.

2.1.3.1 The Interlanguage Developmental Continuum

In a series of papers Corder (1977, 1981) proposes to describe the process of language learning using the construct of a developmental continuum. In the developmental continuum learners have a common starting point which is analogous to the natural semantax of Traugott (1974) in which the semantic catagories are either pragmatically or overtly marked (See Givón, 1975). From this universal starting point movement towards the TL variety is a creative process involving the testing of a series of hypotheses rather than simply replacing the native language with TL forms, i.e. restructuring. Corder is however careful not to dismiss the role of restructuring suggesting that restructuring is likely to be much more prevalent in phonology (Corder 1977, 1981).

One of the salient features of an IL continuum is that it

becomes increasingly complex as it approximates "the target dialect" (Corder 1971 in Richards 1974:165). The concept of increasing complexification is important in two ways. Firstly, it distinguishes an IL continuum from other types of continua such as sociolectal continua, post creole continuum etc which are associated in terms of "restructuring at the same level of complexity"[3] (Corder 1981:88). And secondly earlier IL stages are distinguished from other more advanced stages. Earlier stages are likely to be less complex than advanced stages. Although the concept of complexity is not easy to define, one way in which it can be defined is in terms of increasing syntactisisation or grammaticisation (Givón 1979; Rutherford 1988). A good example of grammaticisation may consist of a movement away from paratactic constructions to increasing subordination.

But what is more interesting is the way in which Corder proposes the IL continuum should be constructed. An IL continuum can be constructed according to Corder by looking either at the language behaviour of individual learners through time, or groups of learners at different stages of IL development. An IL system thus no longer means the language the learner is using at one point in time (Corder 1967). It means rather the sum of the systems used by all learners (Faerch 1978). The idea of an IL as an **aggregate** of the subsystems of **different groups** of learners at **different stages** is comparable to Hockett's notion of "overall pattern" (Hockett 1958 in Faerch 1978:66).

Although Corder's continuum is able to handle variation arising during the process of language learning, through the idea of an IL continuum it does not directly address synchronic

variation because the model is mainly a developmental one. Some of the important sources of synchronic variation which the model misses because of its emphasis on movement towards "the target dialect" are the variable influence of the NL and the TL on IL.

2.1.4 Concluding Summary

All three main approaches to the idea of a learner system make an apriori assumption concerning the existence of a unitary system characterised by a high degree of internal regularity. However, there are clearly discernible differences between the approaches. Selinker's system is mainly static with movement largely constrained by fossilisation. Nemser's system is stable like Selinker's IL, but it is reorganised when increasingly approximating the TL. Corder's system is unstable and evolves in the direction of the TL.

2.2 Introduction to Systematic Variability

In the preceding sections on perspectives on the learner system it became apparent that synchronic variation was not directly addressed, or in cases where reference was made to it, it was not easily incorporated into the concept of an IL system because the system was conceptualised as made up of invariant or alternating rules (Chomsky 1965).

This section attempts to provide a definition of variation and to look specifically at a restricted area of variation. The aim of this section is to concentrate on variation induced by different linguistic contexts and not on variation arising from situational factors. The review indicates that besides systematic variation there is random variation as well, and that

the theoretical case for random variation has been well-made (see Ellis 1985, 1987, 1989).

Beebe and Giles (1985) refer to variation caused by different linguistic contexts as **intrapersonal.** It is intrapersonal due to the fact that the linguistic shape of some aspects of the system are influenced by others, Beebe et al proceed to distinguish betweeen **intrapersonal** and **interpersonal** variation. The latter is not internal to the learner because it has to do with the type of input the learner is receiving.

Because the main focus of the review is on internal variation three main types of variation are excluded i.e. (1) variation between the performance of learners arising from learning the TL in different settings (for example learing an L2 in a naturalistic renvironment as opposed to a formal classroom setting). (2) Variation in final learner achievements because of individual learner differences. (3) Variation between languages as the speaker shifts between codes (code-switching) because of factors such as setting and topic.

Typically, studies which have looked at the effects of learning a second language in different settings involve comparing the developmental sequences followed by L2 learners when acquiring the TL in a classroom setting or in naturalistic environments. The settings usually correlate with the presence and absence of language instruction respectively. A mixed environment is characterised by the presence of instruction and availability of natural exposure to the TL.

One of the consequences of different settings is the difference in the type of input the learner is exposed to. In a natural environment the input is rich and diverse unlike in a

formal classroom environment in which the input is limited in quantity, and restricted in range. Hence the description of classroom settings as "acquisition poor environments" (see for example, Sorace 1985).

A good example of such studies is the one by Pavesi (1987) which compares the performance of Italian learners acquiring English in formal and naturalistic environments. Pavesi's findings are, however, unusual partly because of the linguistic areas she looked at. The areas she studies include the acquisition of spatial and directional prepositions.

Pavesi reports different orders of acquisition for spatial and directional prepositions between the two groups of formal and informal learners. Conceivably, the difference in the orders of acquisition stems from the fact that spatial and directional prepositions are more susceptible to instruction unlike areas such as interrogation and negation. Most of the research has looked at areas such as negation and interrogation. Studies by Cazden, Cancino, Rosansky and Schumann (1975); Wode (1976), and Butterworth and Hatch (1978) lend empirical support to the view that learners generally go through similiar stages of acquisition, irrespective of whether they are acquiring the TL in a formal or informal environment, but formal learners go through the same stages of acquisition at a much faster pace because of the effects of instructions. The difference therefore lies not so much in the **route** but in the **rate** of acquisition (Ellis 1985).

This study is not so much interested in variation due to setting because as will become clearer in Chapter Three all the subjects in this study where learning the TL in formal classroom

settings, thus where exposed to the same type of input.

Another setting related variation which falls outside the main interest of this review involves studying variation between codes. Such studies mainly pioneered by Gumperz (1971) are interested in trying to explain how language choices are made in different settings. For example, identifying which language or indeed languages are likely to be used in a formal classroom environment as opposed to a home environment. Studies into code-switching are extremely important in highlighting factors which prompt speakers in multilingual settings to continuously shift between codes. This study, however, is interested in variation **within the same code**, and not **between codes.**

The third type of variation which is not central to the review is one which is the outcome of individual differences. Studies into the effects of differences between individual learners aim at investigating the effects of any one or more of the following factors on final language learning achievement; age, aptitude, cognitive style, motivation and attitudes.

For a recent review of such studies see Skehan (1989). These studies are not reviewed here because the focus of this study is not on final learner achievement, but on the extent to which the learner's language performance is likely to exhibit variation at the same point in time.

To sum up, there are three main types of variation that fall outside the scope of this inquiry:

(1) Variation due to setting

(2) Individual variability because of differences in learning style, age, etc.

(3) Variation between codes.

2.2.1 Systematic Variability

The definition of variability proposed here is one clearly influenced by the work of Labov (1970) particularly his view of competence as being "heterogeneous" rather than "homogeneous". In a "homogeneous competence model" (see Tarone 1984:10) variation is part of performance or more recently Chomsky has situated such variation in the learner's pragmatic competence (Lyons 1983). It is not of much theoretical significance whether variation is part of performance or pragmatic competence because in both cases the variation is regarded as insignificant to linguistic theory, which is interested in describing the underlying competence of the speaker. The system is regarded as composed of invariant rules consequently variation is regarded as inconsequential to a construction of the system unlike in a heterogeneous model.

In a "heterogeneous competence model" variation is intrinsic to the system (see 2.3.5.1 for a fuller discussion of the model). Expressed differently, the system itself is inherently variable (Halliday 1978). The main difference between the homogeneous and heterogeneous competence models lies in that in the former the rules are categorical while in the latter model besides categorical rules there are variable rules as well.

Categorical rules work in two ways. Either they always apply or they never apply. Fasold (1984) cites a good example of a categorical rule in native speaker pronunciation in English. He cites the rule of aspiration in English. Voiceless bilabical stops such /p/, /t/ are always aspirated in syllable initial position in words such as [tʰɔ:kɔ] [pʰa:kɔ].

But the same sounds are never aspirated when they are part of a consonant cluster in words such as /spil/ /stik/.

There is also room for categorical rules in IL grammars. The categorical rules do not necessarily always have to correspond with those of the TL. Chapter Six which reports on the results of the experiment in this study points out that in the areas of morphology early IL grammars are characterised by the use of simple unmarked verb forms, thus producing constructions in which the verbs are uninflected such as;

*Everyday Peter walk to school.

Besides the methodology one of the most welcome contributions of Labov to SLA is the description of context sensitive rules he proposes. His description constitutes a marked departure from the description of variable rules Tarone et al proposed. In the Tarone et al framework all rules which are systematic are the ones which are always applying. Their early views which contrasts variability and systematicity have been subject to a lot of criticism notably by Bley-Vroman (1986) and Tarone (1988) because of two main factors. Firstly, Tarone et al have been criticised because of the procedure they use to establish whether the performance of the learner is systematic or not. Systematicity in the Tarone et al study is analysed using the obligatory context measure which is not sensitive enough to detect cases of overgeneralisation. (See Chapter Seven for more discussion concerning the appropriacy of the obligatory context measure in SLA). Secondly, the definition of systematicity is at variance with the one proposed in Sociolinguistics where variation can be systematic even though the rules are not necessarily always applying. A good example

is provided by Labov (1969).

Labov's rules are context sensitive so do not necessarily always apply in order to be systematic. The rules are probabilistic because they try and account for the frequency with which a given variant may occur in a particular linguistic environment. Expressed differently context sensitive rules are "if... then rules. They state that if X conditions apply, then Y language forms will occur" (Ellis 1985:9). Since the construct of linguistic context is so central not only to the definition of systematicity, but to this study as well, it is necessary to provide a technical definition of linguistic context.

2.2.1.1 Definition of Linguistic Context

The term linguistic context refers to either the phonological, morphological or syntactic features which surround the varying element (Fasold 1984). "Surround" is understood to mean features either coming before or after the varying element or both. The term linguistic context also refers to either the medium or discourse type in which the varying element is located (Ellis 1989) "Medium" refers to a contrast between spoken and written modes. "Discourse type" refers for example to distinctions between narrating a story and describing a picture.

Labov's (1969) famous New York City study shows the systematic influence of linguistic context on contraction of the copula. Using frequency counts Labov reports that contraction is most likely to occur if the preceding word ends with a vowel and not a consonant. Similarly, the grammatical category of the word following the copula affects contraction of the copula. By

grammatical category of a word Labov is referring to whether the word is functioning as a verb or an adverb. Contraction is most likely when the verb is realised as a locative. The copula in the first sentence is more likely to be contracted than in the second sentence:

(1) Mary is going

(2) Marion is at home

In the first sentence the copula is preceded by a vowel and followed by a verb; a linguistic context more favourable for contraction than when the copula is preceded by a consonant and followed by a locative.

The different linguistic contexts clearly have varying effects on contraction. Following Bailey (1973) a distinction is made between "heavy" and "light" environments. Using the above example from Labov a "heavy" environment is the one in which contraction is most likely to occur, and a "light" environment is the one in which contraction is least likely to occur. In other words, "light" environments do not promote contraction in the study by Labov.[4]

The study by Labov shows how some parts of a native speaker's speech are affected by others. Beebe et al (1984) suggest that studies into the effects of linguistic context have always been the mainstay of theoretical and descriptive linguistics. Linguistic contexts have also not only been assumed to be important in SLA, but have been empirically shown to be important also.

Although the study of the effects of linguistic context falls in the domain of traditional and theoretical linguistics there are two senses in which studies into the effects of

linguistic context are the special domain of SLA.

(1) There are some linguistic contexts which are likely to result in the rendering of particular forms in a non-target like way. In Chapter Six it is shown that the presence of a zero anaphora attracts zero inflection and the presence of a pronoun triggers verbal inflection in the speech of L2 learners.

(2) There are some linguistic contexts which seem to occur much more frequently in IL than in native speaker speech. For example, the use of zero anaphora seems to be much more widespread in IL than in native speaker speech. The widespread use of zero anaphora does not facilitate grammatical accuracy (see Chapter Six for further details).

The Effects of Linguistic Context in SLA

2.2.1.1.1 A Review of Empirical Studies

Introduction

The studies are selected to demonstrate that variation occurs at a number of different linguistic levels e.g. phonology, morphology, syntax, etc.

But the studies which are selected do not only demonstrate the effects of phonological or syntactic environments on IL production, but also illustrate how variation is likely to arise because of an interaction between different linguistic levels, thus the linguistic levels are not regarded as discreet.

2.2.1.1.2 Phonological Environment

L. Dickerson (1975) is one of the earliest studies to investigate the effects of phonological environment on the IL

system. She investigates the acquisition of /z, r, l/ by ten Japanese learners of English over a nine month period. She uses three different tasks, a word list, reading a dialogue and spontaneous free speech. The tasks are aimed at eliciting the most formal style during the reading of isolated words and the most informal speech in spontaneous conversation.

During the testing periods there is a change in the proportion of variants occurring in the different environments, although the ordering of the environments at time (1) remains the same after time (3). The following are the environments for the realisation of /Z/ (one of the areas she studies) from the most favourable to the least favourable environments for the realisation of /Z/.

KEY

Environment A:
-Z + Vowel

Environment B:
-Z + Any Consonant except those in Environment D

Environment C:
-Z + silence

Environment D:
-Z + O
t
d
ts
dz

2.2.1.1.3 Morphological Environment

In a recent study Ellis (1988) sets out to investigate whether the idea that some linguistic contexts are more favourable for TL like production can be extended to morphology.

He studies two morphemes the 3rd person singular and the copula. His findings lend support to the observation that some linguistic contexts are more favourable to the suppliance of target language variants than others. For example, there is a greater likelihood of the verb being inflected to mark the 3rd person present tense rule when the preceding element is a pronoun than an NP. He also reports similar findings for the copula. (See section 2.1.1 for the effects of zero anaphora and pronoun contexts on verbal inflection).

2.2.1.1.4 Semantic and Discourse Distinctions

Pfaff (1987) provides interesting evidence concerning how the IL system is likely to vary depending on the semantic/discourse distinctions the learner is making. Pfaff investigates the use of articles and pronouns by children acquiring German as a TL. Her findings suggest that the children are sensitive to the semantic role played by the noun phrase or the givenness of the information. The protagonist is usually pronominalised and an article followed by a noun is used for participants other than protagonists. New information is marked using a definite article and old information is marked using an indefinite article.

Pfaff's findings are comparable to what Huebner (1983) had earlier found out. Huebner in a longitudinal study finds that his Laotian learner varies in his use of articles depending on whether the referent is regarded as +/- specific and the information is given or new.

2.2.1.1.5 Syntactic Variation

Hyltenstam (1977) extends the use of variable rules to a study of the acquisition of Swedish negation by 160 learners coming from different language backgrounds. He investigates the acquisition of a number of syntactic constructions for example, negative placement, Yes/No question formation, WH questions in both main and subordinate clauses. An evaluation of Hyltenstam's work here is restricted to his findings on negative placement only.

In Swedish the position of the negative varies depending on whether it is a main or a subordinate clause. In a subordinate clause the negative comes after the finite verb, but in a main clause it precedes the finite verb (Hyltenstam).

The frequency with which the negative is supplied in the Hyltenstam study can be ordered in the following way from highest to lowest:

Negative	Auxiliary or main verb	Subordinate or main clause
Negative	Auxiliary verb	In main clause
Negative	With main verbs	In main clause
Negative	Auxiliary verbs	Subordinate clause
Negative	With main verb	In subordinate clause

Hyltenstam by using a combination of a cross-sectional and a longitudinal design is able to examine changes taking place during real time. Hyltenstam's subjects come from different language backgrounds thus he is able to cogently demonstrate the effects of linguistic contexts operating in IL irrespective of the language background of the learner.

2.2.1.1.6 Multiple Level Analysis

A multiple level analysis is defined as an attempt to investigate the extent to which different surface level features interact and result in variable language learner behaviour. The term multiple level analysis is used here instead of the term "interactionist" which is the term frequently used by Long and Sato (1984) because "interactionist" is potentially misleading, it carries the impression of an interaction being carried out by different interlocutors.Young (1988) demonstrates the extent to which different surface level features such as phonology and morphology interact. In a study of the use of pluralisation by Chinese learners, he reports that the phonological shape of the morpheme affects the suppliance of the -s morpheme particularly among elementary Chinese learners.

The interaction between levels is not restricted to phonology and morphology. Knowledge of the lexicon plays an important role as well. A study by Abraham (1984) shows that the suppliance of the -s morpheme to mark the 3rd person present tense is clustered around specific verbs. Similarly, in a study of prepositions Schumann (1986) demonstrates that some prepositions only tend to occur when attached to specific verbs only.

The underlying assumption which studies by Abraham and Schumann are making is that the units around which the IL system is organised may be different from the ones used by the analyst. The study by Schumann illustrates that the learner is likely to see particular prepositions as linked to specific

verbs only rather than as discreet properties expressing spatial and directional relationships.

2.2.1.2 Comments on Empirical Studies

The studies which are reviewed report that linguistic contexts have systematic influence on variability at a number of different linguistic levels. For example, phonology, morphology, etc. There are, however, more studies on morphological variation or phonological variation than on lexical variation because studying lexical variation might turn out to be much harder because of the absence of a simple binary distinction between "correct" and "incorrect forms" which exists in morphology.

An encouraging development, however, is the increasing number of attempts at "multiple level analyses" aimed at showing how the interaction of different linguistic levels results in variable IL produciton.

2.2.2 Free Variation

Section 2.2.1 evaluates the evidence for the systematic influence of linguistic context on variability. The coming section argues that variation can also be non-systematic. Thus, in addition to systematic variability there is a random variation also.

This section addresses two main issues related to variability:

(i) It asseses the weight of the theoretical arguments in support of free variation.

(ii) It evaluates the empirical evidence in support of the case for free variation.

The case for free variation has been mainly advanced by Ellis (1984, 1985, 1987, 1989). He makes a distinction between two main types of free variation. Firstly, random variation which arises due to changes in plan during utterance production. This usually arises when there is high degree of psycholinguistic pressure on the learner's "control" particularly in unplanned discourse. This, however, is not the type of free variation discussed here. (See Section 2.4 for this type of free variation).

The second type of free variation is one which Bialystok and Sharwood Smith (1985) attribute to knowledge. The random variation is part of knowledge because a learner has a number of conflicting rules in his IL competence. The rules are in conflict because the learner does not distinguish between the rules on linguistic, situational, discourse grounds. This usually happens in early stages of IL development when new forms are incorporated into the system to serve old functions. The new forms coexist with old forms and there is no differentiation in linguistic, situational or discourse functions, because the learner still has to sort out the various functions the forms are likely to serve. Thus, IL consists of two stages. The stage of assimiliation/or incorporation of forms followed by the reorganisation phase. The first stage is characterised by non-systematicity, while systematicity only occurs in the second stage (during the reorganisation phase).

The importance of free variation is that it creates the

necessary psycholinguistic conditions conducive for reorganisation of IL, because the existence of forms in free variation increases redundancy in the IL system. Redundancy is increased because a learner has a number of different ways of expressing the same function hence the IL system becomes unreliable and inefficient.

An increase in redundancy is likely to raise the chances of the IL system being reorganised to make a more efficient and reliable use of the available communicative resources of IL. The reorganisation involves restricting particular forms to either specific linguistic contexts or situations thus rendering the IL systematic in areas which were previously random. The pressures to reorganise the IL system hence restricting the scope of free variation are a partial consequence of the violation of one of the salient principles around which IL is based. One of the organising principles of IL is that the learner's grammar should not have more forms than is necessary to serve a particular function. This is consistent with the "one-to-one" principle" (Andersen 1984:79, 1989:51). Andersen defines the "one-to-one principle" in the following way:

> "An interlanguage system should be constructed in such a way that an intended underlying meaning is expressed with one clear invariant surface form or construction".

Non systematic variation is seen by Ellis as one of the important phases of IL development. Ideally, the most appropriate method of investigating free variation is clearly through a longitudinal study because there are some bits of

language where forms may persist in free variation for some time, so it is necessary to see if the forms subsequently become systematic.

2.2.2.1 Evaluating the Evidence for Free Variation

Tarone (1988) reviews a number of studies which have been cited to support the case for free variation and comes to the conclusion that the studies do not satisfactorily support the case for free variation because (1) The studies are cross-sectional rather than longitudinal, (ii) The studies attribute random variation to the data before exhausting factors likely to create systematic variability in IL performance, (iii) None of the studies are set up to investigate free variation although a number of them have reported the existence of free variation. The following section examines some of the criticisms by Tarone.[5]

Huebner (1983) in a longitudinal study of his Laotian subject reports that his learner seems to use new forms to serve pre-existing functions, this results in free variation. The main strength of Huebner's study is that it is longitudinal and thus able to see the extent to which forms enter into free variation before systematicity sets in. The Huebner study thus fulfills one of Tarone's criticisms.

The study by Gatbonton (1978) on the other hand however, does not provide uncontestable support for free variation. If free variation is a transitional stage before systematicity sets in, then it might be useful to use a longitudinal design rather than generalise about stages of IL

development from a cross-sectional study as Gatbonton does. In spite of this Gatbonton proceeds to posit two stages in IL development; the "acquisition" phase and the "replacement phase". In the "acquisition phase" forms are not assigned particular functions or restricted to specific contexts, this happens in the replacement phase. Free variation occurs in the so-called "acquisition phase". Another study which reports on free variation is by Wagner-Gough (1975).

Tarone is critical of the Wagner-Gough study which reports that Homer (the subject in the study) uses the progressive and simple verb forms interchangeably to realise the same function. She is critical of the Wagner-Gough study because it does not investigate the effects of linguistic context, second language learner performance has been shown to vary with linguistic context (see Section 2.2.1.1).

The importance of taking a number of factors into account before describing variation as random is clearly illustrated in Schachter's (1986) reanalysis of the data elicited by Cazden et al.[6] Schachter's findings contradict what Cazden et al had initially observed. Cazden et al had previously claimed that their subjects' expression of negation is not systematic, but the reanalysis by Schachter shows that the learners encoding of negation is systematic. The selection of forms partly depends on the functions which the learners want to express. In the light of the possibility of the analyst describing variation as non-systematic when it is systematic Ellis (1989) identifies five conditions which have to be met before an analyst can describe variation as random.

(1) The two forms occur in the same situational context

(2) The two forms perform the same illocutionary meaning

(3) The two forms occur in the same discourse context

(4) The two forms occur in the same linguistic context

(5) There is in the manner of their production, no evidence of any difference in the amount of attention being paid to form

The conditions enumerated by Ellis provide an analyst with a framework to use to determine the existence of free variation. The attempt by Ellis to enumerate conditions which have to be fulfilled before linguistic forms can be described as being in free variation is most welcome for the obvious reason that it tries to pre-empt analysts who might hastily describe as random, variation which might turn out to be systematic when some of the five factors are taken into account. Unfortunately, the conditions which Ellis identifies are those which describe **stable linguistic** variation and not free variation. Preston (1989:249) has recently commented on the Ellis checklist for free variation. He says:

> "... this list is a good characterisation of stable linguistic variation, i.e. of a sociolinguistic indicator, but not of "free variation".... The distribution of Norwich a: shows a feature which is sensitive to social class difference but hardly at all to stylistic differences".

In conclusion, one can say theoretically, it appears that the existence of free variation accords with what is known about IL particularly the instability of learner-grammars. The instability creates conditions for

free variation. While at the same time the violation of basic principles by building redundancy limits the scope of free variation. Empirically, the case for free variation is not strengthened because some of the empirical studies cited in support of free variation are making claims about IL development from cross-sectional studies. Furthermore, some of the studies in their analysis attribute free variation to the learner without isolating all potential causes for systematic variation, and more importantly Ellis has "confused" free variation with stable linguistic variation. Thus the "checklist" he provides to try and pre-empt a hasty description of variation as random is not very helpful.

2.2.3 Conclusion

This section has looked at the reconceptualisation of an Il system to accommodate variable IL behaviour. Two main types of variation are identified, i.e. systematic and random variation. There is a high degree of agreement that variation is systematic, but there is less agreement on either the existence of free variation or the role it can play in IL development.

2.3 Theoretical Approaches to Variability in SLA

Introduction

Previous sections have looked at the nature of the relationship between systematic and free variability. The aim of this final part of the review is to describe and evaluate the contributions of a number of models and

frameworks which are proposed to account for variability in SLA. Tarone (1988) attempts a classification of models of SLA variability. She divides the models into three groups:

(i) Chomskian models of variability
(ii) Sociolinguistic and discourse theories
(iii) Inner processing theories

There are two main approaches to variability which are conceptualised within Chomskian frameworks. (See Adjemian 1976 and Liceras 1981). Both Adjemian and Liceras are working within Chomskian paradigms (albeit different Chomskian paradigms). Variation is attributed by Adjemian and Liceras to the permeability of languages. The main difference however, lies in that permeability means different things to Adjemian and Liceras as becomes apparent later.

In the sociolinguistic and discourse theories there are approaches to variability coming from different research traditions. The discourse domain theory of Selinker and Douglas (|985), Douglas and Selinker (1987) is mainly influenced by work in local ethnography. Variation is attributed to differences in "domain". The Speech Accommodation theories go back to the social/psychological work of Giles and Powesland (1975). Variation in Speech Accommodation is attributed mainly to the influence of the addressee and not to changes in "topic" as in discourse domain theories.

The least satisfactory classification is that of the models treated as "inner processing theories". The classification is not satisfactory because it contains models

which do not readily seem to fall in the same category. The following are some of the examples of models referred to as "inner processing";

(i) The dual model of Bialystok and Sharwood Smith (1985) which distinguishes between knowledge and control in real time processing.

(ii) The monitor theory whose central claim is that learner language performance is likely to vary depending on the availability of time to monitor speech (Krashen 1976; 1979).

(iii) The Capability Continuum (Tarone 1979; 1983; 1985) which attributes variation to the fact that speakers pay varying amounts of attention to speech during production.

Tarone (1988:22 also in Gass et al 1989:15) classifies the three approaches as "inner processing theories" because they all try and explain variation by postulating the existence of an internal construct, either "monitoring" or "attention-to-speech". The Bialystok et al model is much more complex because it sees variability as either the result of competing rules in a learner's competence or the outcome of processing problems.

It seems rather difficult however, to classify Bialystok et al's model and Tarone's within the same category. Clearly, Tarone's model is psycholinguistic because of her concern with language production. But her methodology seems to be a mixture of sociolinguistic and psycholingistic approaches to language (Ellis 1989). She makes use of a large array of tasks differing on so many sociolinguistic and physcholinguistic dimensions - that it is not easy to

establish from her methodology whether she is interested in identifying sociolingusitic/or psycholinguistic factors motivating language variation, although the drift of her argument seems to be largely psycholinguistic. In this review the Bialystok et al and Tarone's models are not placed under the same category, because of the differences just mentioned.

2.3.1 Permeability As Performance

Introduction

In this section it is argued that permeability is an important construct in understanding the nature of IL variability but it is not necessarily unique4 to IL. Permeability is a widespread phenomenon which affects native grammars as well, although it possibly affects IL much more.

2.3.1.1 Description of Permeability

Adjemian (1976) handles variation within the "homogeneous competence model". The homogeneous model is usually contrasted with the "dual competence" and "heterogeneous competence models" of Krashen (1976, 1979) and Tarone (1979, 1983) resepectively.

In a homogeneous competence model the learner's competence is thought of as largely being made up of invariant rules. Variation is regarded as part of performance arising during production because in particular communicative situations, the learner is compelled to express meanings beyond his current level of competence. Adjemian suggests that in order to overcome such communicative gaps the learner

is compelled to adopt either one of the following two strategies:

The learner may use the IL thus resulting in the IL system being permeated or "invaded" by the learner's mother tongue. The second strategy which the learner is likely to use is an internal one; it consists of the learner overgeneralising particular rules in order to expand the communicative resources available in the IL to meet the communicative demands placed on his system.

Both the "invasion" and overgeneralisation are made possible because the IL system is permeable during production. The permeability results in a discrepancy between what the learner intuitively knows which is indirectly assessed through introspection and acceptability judgements and what the learner does during production.

2.3.1.2 Evaluation of Permeability

Variation in Adjemian arises because of the inconsistency between what the learner does and the learner's linguistic intuitions. The point being made is clearly that variation is not part of a learner's competence, but part of the learner's performance as has been pointed out in 2.2.1 The restriction of variation to production and not intuitions is due to the framework he is working in. Adjemian confines variation to performance because of the assumptions he is making in the Chomskian paradigm. The assumption that linguistic intuitions are not permeable and that variability is restricted to performance is increasingly being questioned. Schachter et al (1976) and Sorace (1988) stress the

indeterminacy of learner intuitions suggesting that learner intuitions particularly at intermediate stages of language development are particularly susceptible to variability. It appears therefore both competence and performance are potentially permeable.

Another controversial point made by Adjemian is that it is only ILs which are likely to be "invaded" by other language systems with the IL being particularly vulnerable to "invasion" by the mother tongue and not vice versa. The mother tongue invades the IL in order to complement the limited communicative resources of the IL.

But it is not only learners who have limited communicative resources, the resources of native speakers in dialect contact areas and multilingual settings are likely to be spread over a number of dialects or separate languages. In dialect contact areas it is quite likely that a speaker may use words from dialects other than his own. This phenomenon is fairly common as Downes (1984) points out.

Another interesting example of communicative resources spread over both the IL and the mother tongue is cited by Milroy in Hudson (1983). Milroy points out that Australian Aborigines count in English even when using their mother tongue. This suggests that there are instances in which the mother tongue is "invaded" by the IL, a position which is contrary to the one Adjemian holds who only sees the mother tongue playing a role in IL communication and not vice versa.

To sum up one is tempted to agree with Preston who argues

> ".....from the study of dialects and varieties in contact, it would appear that the uniqueness of interlanguage permeability is a fiction" (1989:105)

2.3.2 Permeability as Competence

Liceras (1985) treats permeability within a Government and Binding (GB) framework (See Chomsky 1981). Permeability in the GB framework is part of core grammar and is not necessarily peculiar to IL because there are parameters in the core grammar which are not fixed or are fixed in different ways resulting in "permanent parametric variation" in both native and non-native grammars.

2.3.2.1 Evaluation of Permeabilty as Competence

An interesting shift seems to have occurred between Adjemian's position and that of Liceras, while Adjemian argues that permeability is part of performance, Liceras prefers to regard permeability as part of the core in both native and non-native grammars.

Although both native and non-native grammars are variable it is likely that non-native grammars are likely to exhibit a greater degree of variability than native grammars In non-native grammars the absence of crucial evidence in the form of "input" in "acquisition poor environments" leaves particular parameters unset or set in idiosyncratic ways because there is no evidence to either confirm or disconfirm the learner's hypotheses.

More variation is also likely to occur in non-native grammars not only in the core but towards the periphery as well. This may be attributed to a weakening of universal

grammar (UG) contrainsts towards the periphery resulting in greater variability because the periphery becomes more susceptible to variation arising from individual differences in cognitive styles and cultural norms (Sorace 1988).

It appears, therefore, that although both native and non-native grammars are permeable, permeability is a more outstanding phenomenon in non-native grammars making them highly susceptible to variation.

2.3.3 Discourse Domain Theory

Introduction:

The basic assumption in discourse domain theories is that learners are likely to operate differently depending on the domain which they engage. For example, the performance of the same learner is likely to vary depending on whether he is talking about critical path schedules (a subject in mechanical engineering) or about Mexican food (Selinker and Douglas 1985). The concept of a domain has been criticised for not being rigorous enough (Skehan 1987; Tarone 1988; Ellis 1989). Tarone also points out a potential mismatch between the definition and the methodology. Although the idea of a domain is not defined tightly enough, it will be argued that loose definitions are to be expected in micro-ethnography and what is crucial in discourse domain theories is not so much that there is a discrepancy between definition and methodology, but that micro-ethnographic approaches work from society downwards, and that variation is based on the existence of a unitary system and the two are in potential conflict.

2.3.3.1 Description of Domain Theory

Variation in IL is attributed to the existence of different domains. The most salient aspect of the definition of a domain is that it is defined from the perspective of the learner. A domain is therefore a "personally and internally creatred "slice" of one's life that has importance and over which the learner exercises content control" (Douglas and Selinker 1986:207). The importance of the area is seen in that the learner frequently talks about the domin in question. It is not surpising that some of the examples of domains cited in the literature include talking about one's research (for research students), defending one's culture (for overseas students) (Selinker et al). Researchers may find that domains are not necessarily always idiosyncratic because learners from similar backgrounds have domains which overlap forming "prototypical" domains.[7]

The methodology used in discourse domain theories is simple; it involves asking the subject to talk about two different domains. For example, Cornu and Delhaye (1987) ask one subject to talk about economics and then about a knee injury to the same interlocutors. Economics is one of the subject's areas of specialisation. The subject had received a knee injury, that is why she is asked to talk about the injury.

The subject's talk on the different domains constitutes the primary data, secondary data involves the subject's own comments about her performance during a playback session on a video.

It is important to stress that in discourse domain theory variation is investigated not by asking the same subject to talk to different interlocutors like in Speech Accommodation, but by asking the same subject to talk about different domains. What is varied are not the interlocutors, but the domains.

2.3.3.2 Evaluation of Discourse Domain Theory

As pointed out earlier the concept of discourse domain has been criticised for not being tight enough (Skehan 1987; Tarone 1988; Ellis 1989). Skehan argues that if the concept of discourse domain is to have an application outside SLA in areas like language testing then it should be more rigorously defined. Similarly, Ellis (1989) is inclined to think of a domain as nothing more than a "topic". The criticism against the definition of domains is understandable for two reasons. Variation is attributed to learners operating differently in various domains, while at the same time there are a large number of areas referred to as domains as is illustrated by the following examples;

(i) a knee injury (Cornu and Delhaye)
(ii) hobbies e.g. volley ball (Cornu and Delhaye)
(iii) economics (Cornu and Delhaye)
(iv) talking about one's culture (Selinker and Douglas 1985)
(v) talking about one's graduate research (Douglas and (Selinker 1987)
(vi) critical path schedules (Douglas and Selinker)
(vii) Mexican food (Douglas and Selinker)

(viii) The domains of a Polish linguist whose language varies when he is being an "international professor who lectures in English as opposed to retelling stories about Poland after "drinking several vodkas" (Selinker and Douglas)

But the fact that domains seem to vary in scope and detail is in itself not unusual because there is a lot of indeterminacy in the talk of frames, schemas, and activity types and that does not either detract from their theoretical significance or their applicability. What is important about the definition of a domain is that it is defined from a learner's perspective so analytic tools are bound to be "wooly" and flexible, and furthermore one cannot expect a lot of rigour (universality) in micro-ethnographic definitions.

The criticism against the domain theory should not be the flexibility of the concept, but the potential mismatch between definitions and methodology. Tarone (1988) has pointed out that although a domain is defined from the perspective of a learner in all the pieces of research on domains, it is not the subject who volunteers what to talk about (which is what one expects from a learner defined construct) but the researcher who chooses the domain. This is a potential problem, but not of serious consequences because surely it is not unlikely that the researchers are in a fairly good position to know what it is that the subjects frequently talk about. But this is not to say they are in a better position than the subjects themselves. One of the main criticisms against the domain theory should not

be the looseness of the definition or the mismatch between definition and methodology; but that first, when variation occurs it is difficult to identify the potential sources of that variability. For example, in the case of the vodka drinking Polish linguist there are a number of factors which may contribute to variability in his performance (vodka, topic, unmentioned interlocutors) (Preston 1989). Because the sources of variability are difficult to indetify it is not easy to replicate the study as Preston rightly points out.

Second, the differences in language learner behaviour between domains has to some extent been overstated. Cornu and Delhaye (1987) point out that the language behaviour of their subject towards the end of the professional (work) domain is similar to the language she used in the lifestory domain. This seems to suggest that time seems to potentially neutralize the distinction between different domains.

Even if the differences between domains is not as great as is suggested it is still important to stress that the term variability is premised on the notion of a unitary system. But microethnographic approaches working from society downwards are focussing on the social organisation of difference; the system is social and way above language. There is thus a strong possiblity that the approaches are not compatible. In the light of this potential contradiction, Selinker and Douglas posit that variation is best explained not in terms variation in a single system but in terms of a number of distinct but overlapping systems something similar to Ellis' (1985) multiple competence model. The importance of explaining variation in terms of a number of systems has not been lost to Le Page et al

(1984) when talking about language in general with whose quotation this section is closed:

".....we would want to see linguists chary of talking about a language in any monosystemic sense, as biologists are by now of talking about a human race (181)

2.3.4 Addressee Factors

Introduction

Studies which have looked at the effects of the interlocutor on the language of the speaker have been carried out mainly in the Speech Accommodation framework formulated largely by (Giles and Powesland, 1975; Beebe and Giles, 1984).

The underlying assumption is that a speaker is likely to vary his language depending on his perception of the speaker's ethnicity, age, social status etc.

Although Speech Accommodation is a welcome contribution to SLA variability there are three main problems which arise when the construct is extended to IL.

(1) the learner may not vary his language either because the learner has a limited repertoire or the learner does not have the capacity to manipulate the available resources in order to vary.

(2) the learner's perception of the language of the addressee may be idiosyncratic and inaccurate.

(3) the learner's language may vary due to linguistic context, and this variation might not necessarily have any social/psychological significance.

The success of the Speech Accommodation model should be assessed on the strength of how well it handles the three

factors above because any model which attempts to explain SLA variability has to confront one or more of the three factors. The problems are however of minor significance in native grammars.

2.3.4.1 Description Of Addressee Factors

The influence of the interlocutor may result in the learner varying his language in at least two ways. The speaker may adjust his language in the direction of the speaker, or the language which the speaker thinks the interlocutor is using. Variation towards the speaker is convergence (Beebe 1988). Conversely, variation away from the speaker is divergence. Bell (1984) contends that variation away from the speaker is usually towards some other reference group.

Speech variation in Speech Accommodation takes place at a number of different levels; (1) amount of speech (2) rate of speech (3) intonation, (4) code-switching. Code-switching is a reflection of divergence (distancing) if one of the addressees does not understand the language the speaker has "switched" into (Beebe and Giles 1984).

The number of studies demonstrating the effect of the interlocutor on the speech of the second language learner is slowly accummulating. Beebe (1981) finds that the amount of IL talk of her subjects depends on the identity of the interlocutor. Similarly, Beebe and Zuengler (1983) report that Chinese-Thai children vary phonologically depending on whether the interlocutor is perceived to be a member of their own ethnic group or not.

In a more recent study Young (1988) using the framework

proposed by Bell (1984) of "audience design" reports that his Chinese subjects vary their language depending on whether the interlocutor is a native speaker or not. Interestingly, he reports that elementary subjects do not converge towards the native speaker.

2.3.4.2 Evaluation Of Addressee Factors

Speech Accommodation Theorists have met with varied success in attempting to handle some of the problems arising from extending their framework to SLA.

The problem of a learner's limited repertoire is potentially problematic because Speech Accommodation theories are predicated on the assumption that although native speakers do have a limited repertoire they are still able to utilize the available resources in their repertoire to either converge or diverge. Clearly, if native speakers have a limited repertoire (Corder 1974; Beebe and Giles 1984) then the repertoire of second language learners is inevitably much more restricted.

Limitations in ability to converge arise because the learner lacks the necessary linguistic resources to exploit in order to either converge or diverge. Thus, a learner may linguistically diverge because of linguistic factors, while at the same time psychologically converging. An example, of linguistic divergence but psychological convergence involving native speakers would be instances of playful abuse, jokes etc when speakers act out different but complementary roles.

An instance of a learner linguistically converging, although psychologically motivated to diverge may arise because the learner has wrongly perceived the language of the native

speaker as reflecting a friendly interpersonal relationship.

It is important to address the issue of a learner's perception in SLA because of the importance perception is attributed in Speech Accommodation. Variation in Speech Accommodation is attributed to what the learner perceives in the speech of the interlocutor. But at the same time, the perception of the learner is likely to be less accurate and more idiosyncratic than that of a native speaker because of cultural factors. The issue is further complicated because one is never sure what it is the learner is perceiving; or what it is the learner thinks he is perceiving. Although the issue of learner perception has not yet been successfully handled in Speech Accommodation, it is still accorded a lot of importance in the framework.

Another problem not yet successfully incorporated in current Speech Accommodation frameworks is variation arising due to linguistic context. In section 2.2.1.1 it is stressed that the learner's accuracy is likely to be variably affected by different linguistic contexts. Variation due to linguistic context is likely to be attributed social psychological significance within a Speech Accommodation framework when it is not. A researcher working with a Speech Accommodation framework may regard linguistic context induced variability as either signalling convergence or divergence when it is a purely intrapersonal phenomena, and has little, if anything at all, to do with the learner's perception of the interlocutor. Variation due to linguistic context may however affect the learner's accuracy in his production.

Accuracy is clearly a phenomena of central importance in

SLA unlike in native grammars. Native speakers are generally accurate in their speech what is variable however is the standardness of their speech. Standardness is a sociolinguistic phenomenon, not a purely linguistic one. Speech Accommodation theorists still have to find a way of handling phenomena which are marginal in native speaker speech but central to SLA such as variation due to linguistic context.

2.3.5 The Capability Continuum Model

Introduction

Tarone's Capability Continuum model (Tarone 1983) attempts to account for variable IL by postulating the existence of a heterogeneous competence model. The model is closely associated with Labov because it postulates the existence of an underlying variable competence and also uses methodology which is comparable to that of Labov. The methodology is basically a cross- sectional design which is accompanied by a large array of different tasks. The Labovian methodology has been extremely powerful in SLA given the number of studies Tarone cites in support of her Capability Continuum model (Dickerson and Dickerson 1977; Schmidt 1980; Fairbanks, 1982).

There are three main points which will be raised in connection with the model. Firstly, it will be argued that although the construct of "attention-to-speech" provides a partial explanation for variability, it is still difficult to know what it is the learner is attending to or how much attention is being paid, and if the same level of attention is being paid throughout the task.

Secondly, it will be argued that the idea of rule

internalisation as consisting of a movement from the careful to the vernacular style is too restricting. It does not include other logical possibilities of language internalisation.

The final and most important point that will be argued is that it does not seem plausible to suggest that learners style shift given what is known about elementary learners, and the evidence Tarone cites does not seem to add up to be what can be meaningfully called a continuum.

2.3.5.1 Description of the Capability Continuum

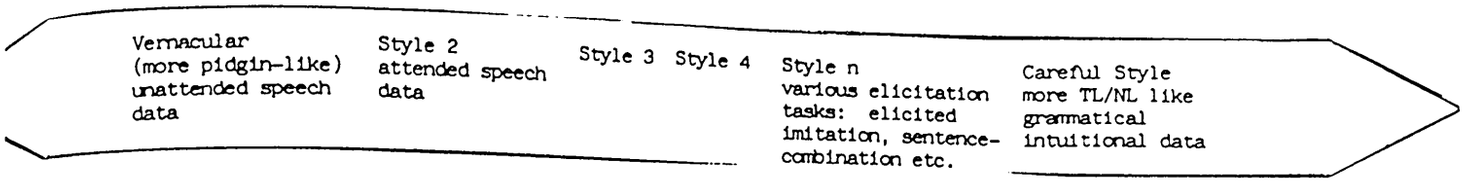
Tarone (1983) proposes a continuum to account for Il variability. She calls her model a Capability Continuum and argues for the model as an alternative to Adjemian's (1976) "homogeneous model" and Krashen's monitor theory (1976, 1981) which she calls a "dual competence model".

Tarone prefers the term Capability to competence because the latter "implies the sort of linguistic knowledge almost accessible in its entirety to a form of introspection in that grammaticality judgements may provide the linguist more or less direct access to it" (Tarone 1984:13). The competence she envisages is basically a heterogeneous one along the Labovian lines. A learner's competence is made up of a number of styles which are related in terms of variable and categorical rules.

The learner's language is systematic although it is variable.

In other words, the variability is systematic.

Interlanguage Continuum: Tarone 1983



A learner's performance can be situated anywhere along the continuum depending on the amount of attention being paid to form; the style which is elicited when the learner is paying the least amount of attention during spontaneous conversation is referred to as the vernacular style. The careful style is elicited when the learner is paying the most attention-to-form in grammaticality judgements and word list reading. The vernacular style is the most systematic, exhibiting the highest degree of consistency (i.e. internal systematicity). The careful style is the least systematic because it is permeated by TL forms and paradoxically prestigious mother tongue forms as well thus rendering it highly variable.

The relationship between the careful and the vernacular style is not restricted to the fact that the former is less systematic than the latter, but that TL forms enter into the careful style before subsequently filtering to the vernacular. However, there are some forms which enter directly into the vernacular during spontaneous conversations as a result of acquisitional universals rendering the vernacular style systematic. Consequently, Tarone envisages two ways in which rules are internalised. Forms get to the vernacular via the careful style, or enter directly into the vernacular style during spontaneous interaction.

2.3.5.2 Evaluation of the Capability Continuum Model

The construct of attention-to-speech is central to the model, because styles are defined relative to the amount of attention being paid to speech during production. But Long and Sato (1984) have rightly pointed out that the amount of attention paid to form in each task remains an assumption which is made on a priori basis. For instance, Tarone (1983) is quite adamant that the vernacular style is produced with the least amount of attention being paid to speech. Ochs (1979) and Rampton (1987) among many others have pointed out that it is not hard to imagine a situation in which a lot of attention is being paid to construct a vernacular style. This may be the case particularly among second language learners who have acquired the TL in a predominantly formal environment. They may have to pay a lot of attention to form in order to sound informal.

The problem of operationalising the construct of attention does not only lie in predetermining how much attention learners are likely to pay, but what it is they are going to attend to. Tarone gives the impression that a shift from the vernacular style to the careful style metaphorically involves a shift from meaning to form. Rampton (1987) has aptly described Tarone's argument as creating the impression that "where meaning leaves off, monitoring takes over and vice versa" (:48). The weakness of Tarone's argument is her refusal to consider the possibility that learners may pay attention-to-form to realise a specific social meaning. A learner keen to project the status of a non native speaker is likely to select particular structures associated with learners in the minds of native speakers (see

section 2.1.1). Similarly, the same learner may select forms corresponding with those of a native speaker to impress the teacher as part of the learner's impression-management (Gal, 1979:8; Brown and Levinson, 1978: 287). The distinction between form and meaning is therefore not a dichotomous one with form on the one hand and meaning on the other, but consists of a potentially complementary relationship between form and meaning with the learner focussing on both form and meaning concurrently.

Because of the possibility of a learner focussing on form and meaning concurrently it becomes important to establish empirically whether the learner is paying the same amount of attention throughout a task. It is quite likely that the amount of attention a learner pays in each task fluctuates. Variation within each task seems to have been downplayed in SLA because of an explicit concern with showing that different tasks elicit varying types of language (see for example Tarone (1983) and Selinker and Douglas (1985).

Another controversial issue in the Capability Continuum model relates to the process of language internalization in the continuum. Tarone views language internalisation as strictly a right to left movement, i.e. forms enter into the careful style and after some time "pull up" the vernacular in the direction of the careful style (Widdowson, 1975; Littlewood 1981). Tarone's concept of rule internalisation is based on the view that the vernacular bears no relationship to either the TL or the mother tongue. The vernacular has features which are unique. This view is difficult to maintain when observable facts point out that there are some TL features in the vernacular as well. It

is quite plausible some forms enter into the vernacular and subsequently drift towards the careful style.

Language internalisation becomes a much more interesting phenomenon because it involves both a right to left and a left to right movement. An empirical study would sort out which forms are likely to come in through the careful style and which ones are through the vernacular (Hyltenstam 1985; Skehan 1987).

The arguments proposed so far have rested on the assumption that there is a continuum underlying second language performance. For example, the debate whether language internalisation can be accounted for solely in terms of a movement of forms from the careful to the vernacular styles rests on the assumption of the existence of a continuum. It is the existence of a continuum which is now going to be questioned.

Tarone considers that her model accounts for variability at different levels of language, (i.e. phonology, morphology, syntax). She does not distinguish between learning problems in the different levels, she does not emphasise that the most convincing evidence for the existence of a continuum comes from phonology (Dickerson and Dickerson 1977; Beebe 1980).

The study by Dickerson et al shows a correlation between attention and accuracy. The Japanese subjects in the Dickerson study are most accurate when reading a word list, less accurate when reading aloud and least accurate in spontaneous conversation. The reading of a word list is taken to be the learner's formal style, with the spontaneous conversation as the least formal style (vernacular).

In a recent study Tarone (1985) looks at three

structures; the 3rd person singular, the article and direct object pronoun it. She finds that there is a high correlation between attention and accuracy for the 3rd person and not for the other two structures. The subjects are more accurate on a grammaticality judgement than in a narrative when using the 3rd person singluar.

Tarone hypothesises that the grammaticality judgement requires more attention than the narrative. Her hypotheses are confirmed for the 3rd person but they are disconfirmed for the article and the direct object pronoun because the subjects are more accurate in a narrative which according to Tarone requires less attention than a grammaticality judgement task. She explains the absence of a strong correlation between accuracy and attention by suggesting that the communicative effectiveness of the structure also plays a part; Tarone and Parrish (1987) argue that the subjects are more accurate when using the article and the direct object pronoun in a narrative than in a grammaticality judgement task because articles and direct object pronouns play an important role in contributing towads textual cohesiveness in a narrative unlike the 3rd person which is redundant in a piece of connected discourse. This suggests that it might be easier to construct a continuum on the basis of phonolcgical and morphological rather than grammatical evidence. because discourse cohesiveness might potentially affect the neat correlation between attention and accuracy. However, what is important is not so much that the evidence she cites does not add up to a continuum or that the tasks seem to vary on too many dimensions both psychologically and sociolinguistically but that the assumption Tarone is making when she claims that there are

"no single-style speakers" looks suspect. She lends herself open to the criticism that what she is studying are not styles hence she cannot provide evidence of style shifting.

Swan (1987:62) argues;

> "One variable feature alone does not make a style. Nor indeed do whole catalogues of variable features, as long as they are investigated independently and cannot be shown to co-vary systematically in groups"

Tarone's attempt to describe a style in terms of a single variable feature is however plausible. There are certain minor formal differences between styles which are stylistically significant because they signify a shift in style. Conversely,major formal differences need not necessarily be stylistically signifcant. A bundle of variable features need not necessarily signify a style. A definition of style which takes into account how small differences can be stylistically significant, and big formal differences not significant is analogous to the way language has been defined.

Criticism against Tarone should therefore not be that her definition of a style is too restrictive, but that by saying that there are "no single-style speakers" she is making two separate assumptions which do not necessarily always apply;

(1) that the learner has the necessary communicative resources to style shift, i.e. knowledge.

(2) that the learner has the capability to utilize those resources to style shift, i.e. control.

Both assumptions do not seem to be warranted. It does not sound convincing to claim that both assumptions are true for all learners, let alone elementary learners. It is important to conclude by suggesting that IL research does not only have to account for variable performance, but lack of variation as well which arises when the learner has neither the resources to style shift nor the capacity to do so.

2.3.6 Knowledge and Control in Interlanguage Development

Introduction

If the Capability Continuum has been criticised for conflating knowledge and control by not identifying whether the variation occurs because of limited knowledge, or lack of control over the knowledge, the Bialystok and Sharwood Smith (1985) model sees variability as either the outcome of competing rules in the IL grammar or the result of problems in accessing linguistic information in real time. The aim of the coming section is to provide an outline of the Bialystok et al model and examine the relationship between the two dimensions i.e. knowledge and control.

2.3.6.1 Description of "Knowledge and Control"

The Bialystok et al model is formulated within a Chomskian modular approach to language. The distinction which is drawn between knowledge and control is in a sense analogous to the following distinctions;

(i) competence/performance

(ii) system/strategy

(iii) declarative/procedural knowledge

Declarative knowledge is knowledge **about**, while procedural knowledge is knowledge **how to** (Sorace 1985; Schmidt 1989).

Declarative knowledge describes the nature of the mental representation assigned to **linguistic** information by the learner in his IL grammar. Bialystok et al suggest that this knowledge is represented with varying degrees of **analyticity.** A learner's knowledge is said to be analysed, if the learner is aware of the nature of the structure and the way the structure is related to other structures. Analysed knowledge is easily used in tasks requiring the manipulation of knowledge such as sentence substitution, transformations etc (Bialystok 1979).

Not all knowledge in the IL grammar is analysed. For instance a learner might not necessarily be aware of the nature of the internal constituents forming the structure in holophrastic expressions. Lack of awareness of the internal constituents of an expression does not however stop the learner from using the expression because knowledge and the ability to use the knowledge are <u>independent</u> dimensions. (On the role of formulaic constructions in language development see Hakuta 1974; Fillmore 1976; Dulay Burt and Krashen 1982).

Variation in competence arises as a result of a continuous analysis or reanalysis of internalised knowledge. For example, at one point in time the learner's knowledge might have two variants of the same form not distinguished in terms of linguistic context or situational environment. A subsequent reanalysis is likely to result in one of the variants being assigned to specific linguistic contexts or situations. But the reanalysis of knowledge need not necessarily imply;

(i) that the knowledge is becoming more complex

(ii) that the knowledge is necessarily approximating the target language

(iii) that the learner is becoming increasingly aware of the nature of the structure.

The fact that an increase in analysis does not necessarily imply an approximation towards the IL is important because in a series of papers Bialystok has been quite adamant that IL knowledge is not the same thing as TL knowledge (Bialystok, 1981, 1982; Bialystok 1988).

2.3.6.2 Automatic Dimension

The automatic factor refers to a learner's relative abilities in accessing and using language in real situations. The ability to automate knowledge operates **independently** of the way the language has been analysed or the degree to which the knowledge has been analysed.

Variation in processing is thought of as a continuum ranging from controlled to automatic processing. Elementary learners are usually relatively slow in accessing knowledge. The process of retrieval for elementary learners is non-automatic because of the absence of effective sub-routines in long-term memory and controlled processes require specialised attention thus very few other processes can be carried out concurrently (Hulstijn and Hulstijn 1984).

If controlled processes are slow and make heavy demands on the attentional resources of the learner, automatic processes do not consume a lot of time and can be carried out simultaneously with other cognitive processes. Because for automatic processes skilled speakers have available "sub-routines" for construction

of structures and detection of error (Hulstijn et al).

2.3.6.3 Evaluation of Knowledge and Control

Fundamental to the model is the distinction between knowledge and control which are presented as independent dimensions of language proficiency. The knowledge/control dichotomy makes it possible to distinguish between competence errors and performance mistakes. (Corder 1981). Competence errors arise because of an inaccurate mental representation of grammatical rules, while performance mistakes are attributed to processing problems. The distinction has been extended to fossilisation by Swan (1987). Swan distinguishes between two types of fossilisation.

(i) fossilisation arising because of "defective competence"

(ii) fossilisation arising because the learner has not succeeded in gaining adequate control over the knowledge for the knowledge to surface in actual usage (performance fossilisation).

A combination of the two independent dimensions of knowledge and control yields four possible combinations. The last two of the combination are interestingly enough beyond Krashen's learning/acquisition dichotomy. The following are four groups of learners.

(i) Highly fluent learns with very little knowledge of the target language (i.e. +Control; -Analysed)

(ii) A highly sophisticated analysis of the TL, but a non-fluent language user (+Analysed; -Control)

(iii) Elementary learners who are neither fluent nor have any knowledge of the TL. (i.e. -Control, -Analysed).

(iv) Highly fluent learners with a highly analysed TL knowledge (i.e. +Analysed +Control).

Categories (iii and iv) are beyond Krashen's learning/ acquisition distinction because learning in Krashen produces (+Analysed -Control) while acquisition results in (+Control -Analysed) because it is only language which has been acquired which acts as an utterance initiator.

It is useful to conclude this section by making a minor point concerning the relationship between declarative and procedural knowledge. Declarative knowledge need not necessarily precede procedural knowledge for children learning their mother tongue because the procedures for performance children have are likely to subsequently result in a sedimentation of action structures in declarative knowledge (Levinson 1978). The children might have begun the process of learning with procedural rather than declarative knowledge.

2.4 Planning Variability

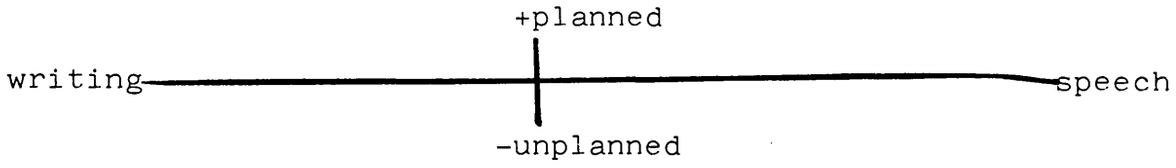
Introduction

This section proposes to study IL variability through the planning framework. The framework consists of comparing unplanned with planned discourse. The basic contrast between unplanned/planned discourse is complemented with a more finely tuned psycholinguistic approach to planning using repetitions, self corrections, pauses etc as an indirect measurement of degrees of plannedness of speech.

Planned and unplanned discourse are contrasted on the

basis of the degree to which the discourse is organised prior to its expression. Planned discourse is organised before delivery, unlike unplanned discourse which is not organised. (Brown and Fraser 1978; Ochs 1979; Ellis 1984; 1985; 1989).

Planning is thought of as a continuum more than a dichotomy. Different discourse modes will therefore exhibit varying levels of planning. A formal essay is a good example of planned discourse while spontaneous conversation is usually unplanned. Although a formal essay is taken as an example of planned discourse and spontaneous conversation is unplanned, it is not assumed that there is a one to one correspondence between the written/speech contrast and the unplanned/planned continuum. The point is that the writing/speech contrast simply cuts across the planning continuum as the following diagram illustrates;



The intersection obviously yields four types of discourse modes;

(i) unplanned speech

(ii) planned speech

(iii) unplanned writing

(iv) planned writing

2.4.1 Planned Discourse

The first crucial determinant in planning discourse is the availability of time. The presence of time is essential in order to allow the speaker to organise both the content and the

linguistic means of expressing that content. The availability of "pre-speaking time" it has been argued is a reliable means of assessing the degree to which discourse is planned. Ellis (1987) argues that the degree to which discourse is planned or unplanned can be taken to correspond with the amount of planning time available. By equating "pre-speaking time" with planning time it is possible to partially overcome problems of determining how much attention is being paid to speech in each task, because it provides an independent measurement of planning. Because planning time can be measured it is easily manipulated. Thus tasks can be varied along a single dimension. This would involve varying the planning conditions and holding the discourse mode constant.

The second parameter around which discourse is planned is the extent to which information has been analysed. Analysed information as opposed to "diffuse information" facilitates planning because the speaker's cognitive energy is released enabling the speaker to invest his energy in other parts of the task such as locating the necessary linguistic resources to express the content (Skehan 1987). In analysed information the speaker does not have access to a lot of information from long-term memory, because the information is "pre-packed". The importance of liberating the learner's processing capabilities arises from the fact that human beings particularly learners operating in their second language have limited processing capabilities (McLaughlin 1987). Analysed knowledge provides the speaker with sufficient room for the learner's "control" mechanism to operate effectively.

The availability of "pre-speaking time" and analysed

knowledge are independent variables which are used to assess the degree to which discourse is likely to be planned before speaking. But planning also takes place during the act of speaking. In order to assess the extent to which planning is taking place during production it is necessary to make use of evidence which is regarded as uninteresting in a "homogeneous competence paradigm" such as the one Adjemian (1976) uses (See Section 2.3.1).

The differences between the approach to variability being proposed here and the one represented by Adjemian in this review is that lapses, self-corrections etc are singularly uninteresting to the generative linguist because they do not contribute towards the construction of a speaker's competence which is the aim of generative linguistics. Lapses, self-corrections are therefore regarded as trivial and non-systematic (Seliger, 1978).

But the same phenomena (lapses, self-corrections) are likely to be regarded as of central theoretical significance for two main reasons. Speech errors have been used for a considerable length of time in psycholinguistic research into the nature of planning of native speakers (see Goldman-Eisler 1968). The second and possibly more important reason is that although the phenomena of "speech errors" is likely to be regarded as part of performance in native speaker speech, the competence/performance distinction is an extremely difficult one to make in IL because ILs are unstable and in a continuous state of flux unlike the "steady state" grammars of native speakers. It becomes to some extent unavoidable to use the so-called performance phenomena to construct the learner's underlying competence. The so-called performance phenomena may also turn

out not to be so irregular and unsystematic and can thus be used as "overt evidence of covert planning" (Fathman 1980:p17).

The systematicity of repetitions and pauses is seen in that they usually occur after the first or second function word. This is taken as suggesting that the process of lexical selection is still taking place. Thus the syntactic frame seems to have already been planned before the precise lexical means of expressing the content has been selected. Repetitions might also be used by the learner to gain time in order to plan the next utterance. A similar function is played by filled and unfilled pauses.

Other "temporal variables" which are used to investigate the extent and nature of planning include the following;

(i) speaking rate (syllables per minute)

(ii) silence speech ratio

(iii) length of runs (syllables between unfilled pauses)

(iv) length of unfilled pauses

(The list is taken originally from Grosjean and Deschamps 1975 :152).

The significance of "temporal variables" is that they provide insight into the nature of planning during the act of speaking and can indicate the extent to which planning is remaining uniform in a task. It is in this light that the planning framework differs from the framework by Selinker and Douglas (1985). In the Selinker et al framework language variation arises because the speaker accesses different domains, but there is no way of knowing to what extent the same domain is handled consistently after it has been accessed. Similarly,

with Tarone, tasks differ on the basis of the amount of attention, but it is hard to know whether the same level of attention is maintained throughout each task.

2.4.2 Unplanned Discourse

So far only parameters around which discourse may be planned have been identified but this section goes further and intends to explore factors which are likely to constrain planning and the effect the factors have on the linguistic characteristics of unplanned discourse.

The pressure on the learner in unplanned discourse can be attributed to the limited amount of time the speaker has available. In unplanned discourse particularly in spontaneous conversation with native speakers, the learner is under a considerable amount of pressure to process a lot of language quickly and speak as quickly as possible. The desire to speak quickly hence not to be seen to be wasting the time of the addressee constrains planning, because the articulation rate is speeded up and the number of pauses reduced (Fathman 1980; Towell 1987). The press for fluency is likely to result in the learner not correcting all the forms which depart from his own idealised grammar. Consequently, unplanned discourse is likely to be less accurate than planned discourse. By hypothesising that unplanned discourse is less accurate than planned discourse, the planning framework is able to handle variation due to linguistic context much more satisfactorily than the Speech Accommodation framework.

The difference between unplanned and planned discourse is simply not that unplanned discourse is likely to be less accurate than planned discourse, but that the former is less syntactically

complex than the latter. The desire by the learner to be understood compels the learner to depend heavily on the immediate context to express propositions. The heavy reliance on the immediate context with its concomitant primary focus on meaning results in the learner's IL being desyntactisised. The decrease in grammaticisation is seen in the (i) frequent referent deletion (ii) avoidance of syntactic subordinators and relative clause constructions (Givón 1975; Ochs 1977; Brown and Fraser 1978; Keenan 1978; and Tannen 1980).

The cognitive demands imposed on the learner when producing unplanned discourse are heavy. Because of the heavy cognitive demands the learner calls upon linguistic forms haphazardly. By accessing forms randomly the learner avoids having to select between competing froms in his IL competence. Variation in unplanned discourse is probably random (Towell 1987). Even if the variation is not random it is clearly less systematic than in planned discourse. It is important to bear in mind the unsystematic nature of unplanned discourse because the unplanned/planned continuum is usually regarded as paralleling the vernacular/formal style in the Labov/Tarone framework as Brown and Fraser (1978) put it;

> "....Formal scenes often demand planned discourse and conversely planned discourse may have some of the metaphoric cannotations of formal scenes"(:50)

Predictions based on the vernacular/formal continuum are in contradiction with those based on the unplanned/planned continuum because in the former it is the vernacular style which is the most systematic, but in the latter it is planned

discourse which is the most systematic.

Furthermore, the parallelism between the two continua ought not to be pressed too far because one of the main advantages of the unplanned/planned distinction is that it can be applied to both vernacular and formal styles. Thus, it is theoretically possible to have;

unplanned vernacular styles

planned vernacular styles

unplanned formal styles

planned formal styles

because planning is a psycholinguistic process which tends to operate **independently** of the formality of the context although there are some sociolinguistic contexts which might correlate with planned and unplanned discourse respectively.

In conclusion, it is important to stress that the planning construct provides a way in which variability can be investigated. The same discourse may be produced in varying planning conditions. Tasks therefore tend to be distinguished along a single parameter. By contrasting unplanned with planned discourse the framework is able to handle variable accuracy and syntactic complexity in language learner behaviour.

2.5 Conclusion

The intention of this conclusion is to outline briefly the differences and similarities between the theoretical framework of planning which has been proposed here and the other theoretical approaches which are discussed.

In section 2.3.5 it is pointed out that Tarone divides theoretical approaches to variability into three; (i) Chomskian

models (ii) Sociolinguistic and discourse theories; (iii)"inner processing theories". The conclusion selects each of the three classifications and explores how they relate to the theoretical framework of planning.

The difference between the so-called Chomskian models of variability and the planning framework lies in what is counted as evidence. It is argued that performance data which is likely to be regarded as unsystematic in native grammars might turn out to be systematic in IL and can consequently be useful in theory construction.

The second group of theories include studies into how language varies depending on the domain being operated by the learner. The differences between domain theories and planning variability is that the latter examines variation between tasks and variation in the same task as well while discourse domain theories investigate variation between tasks only. Variation within the same task in planning variability is investigated using the construct of speaking rate.

Both Speech Accommodation and planning variability are interested in investigating the syntactic complexity of IL talk.. In Speech Accommodation variation in syntactic complexity is expected to arise when the interlocutor is a native speaker as opposed to a non-native speaker. In planning, variation is expected to arise in terms of syntactic complexity because of the amount of time available to plan.

"The inner processing theories" include Tarone's Capability Continuum model, and Bialystok et al's knowledge and control model. Tarone's Capability Continuum differs theoretically from the planning continuum in some of its

theoretical predictions. The vernacular style is the most stable and systematic in the Capability Continuum, but in the planning continuum the unplanned discourse usually used in spontaneous conversations is expected to be the least systematic although it is the one closest to Tarone's vernacular. The second difference derives from the use of planning time/and speech rate as measurements of attention-to-speech unlike in the Capability Continuum where the predictions of the amount of attention are based on theoretical assumptions only.

The concepts of knowledge and control which constitute the basis of Bialystok et al's model are also integrated into the model and subsequently reinterpreted. In the Bialystok et al model knowledge is purely a **linguistic phenomena**, so that variation arises because of differences in the extent to which the linguistic phenomena has been analysed. But in planning the concept of analysed knowledge is used in a much broader sense to include not only linguistic sub-systems, but knowledge of content as well (Skehan 1987).

In the Bialystok et al model the learner's control mechanisms operate independently of the degree of analyticity. In the planning framework the learner's control mechanism is implicated in the analysis of knowledge. Consequently, knowledge and control interact with control being facilitated by analysed knowledge. Implied in all this is a view of language internalisation which regards particular linguistic forms as being acquired when attached to specific topics, situations, contexts, etc. Thus when the topic is raised the linguistic forms attached to specific topics are triggered also.

FOOTNOTES .

1/ Although Selinker places the concept of fossilisation in a central position in his IL hypothesis, the concept is potentially controversial in SLA. For example, the argument that fossilisation sets in when a learner's communicative desires are met is intuitively appealing, but aside from the case of Alberto (Schumann 1980) it appears that the assumptions implicit in the Schumann Study are not empirically supported.

Implicit in the suggestion that fossilisation sets in when a learner's communicative desires are met is the assumption that if a learner who originally fossilises finds himself in a radically new environment requiring new or extended communicative resources then the learner's acquisitional capabilities will be stimulated again. Schmidt (1983) finds that the assumption does not necessarily hold. Schmidt studies one Japanese subject called Wes and finds that Wes' language learning does not resume when Wes is in a situation which requires more grammatical abilities. This implies that fossilisation for some learners may readily occur in the area of grammar and not in other areas of the learner's IL. Which area or part of the learner's IL is likely to fossilise may in part depend on the language learning style adopted by the learner.

If fossilisation is so powerful that it is almost inevitable that a second language learner fossilises before reaching native speaker competence, why is it not powerful enough to arrest the process of language attrition?

2/ Rampton (personal communication) argues that backsliding might not be unique to second language learners because native speakers backslide after a prolonged period of writing. It is interesting to note that Rampton restricts backsliding to writing among native speakers. The process of writing may be comparable to learning a second language, if both are regarded as skills; so it is not surprising that native speakers may backslide in writing and second language learners backslide in both speech and writing.

Backsliding in an advanced case of language attrition may be an instantiation of language revival.

3/ Corder's claim that the difference between an IL continuum and other types of continua e.g. post creole continua is that movement in the latter is comparable in terms of degrees of complexity while movement in the IL towards the TL is characterised by an increasing complexity, is at best an axiom. It is an axiom because the concept of equality among languages or any types of continua is suspect. Hudson (1983) summarises some of the arguments against the axiom of language equality.

The important arguments against the notion of language equality have to do with the different functional roles languages play. Some languages may have wider functional roles to play in a speech community than others. Similarly, being a native speaker of some languages may be more prestigious than being a native speaker of other languages.

4/ Ellis (1989) points out the dangers of circularity in the use of the terms "heavy" and "light" linguistic environments, and suggests the use of the term "markedness" as a way of avoiding the circularity. However, the concept of markedness is also controversial (See White 1987 for a catalogue of the different senses in which markedness has been defined).

5/ Tarone's criticism against studies reporting free variation are discussed in the main part of the review. But it is necessary to stress that one of her criticisms against free variation is difficult to understand. Tarone argues that none of the studies reporting free variation are originally designed to study free variation. This criticism is a difficult one to comprehend because it appears logical that one sets out to investigate systematic variation, and after exhausting the factors which might create systematic variability then one can subsequently and only then claim that the variation is random. It is thus not logically possible to set out to investigate random variation.

6/ The difference between Schachter's position and that of Ellis on free variation might in actual fact not be as important as it first appears, it might be one of emphasis. Schachter is not prepared to consider forms occuring before what she calls the "onset of systematicity" while Ellis is clearly interested in forms occuring before the "onset" because it is in such areas that free variation is to be found. The difference lies in **when** and **at what stage** the analysis should begin.

7/ The term domain is fairly well known in sociolinguistic research mainly because of the work of Fishman (1971). Fishman describes each individual domain as composed of a number of factors which interact in a complex way to produce variability in language use. The three main components which form each individual domain are **place, topic** and the **assumed identity** of participants in a specific speech event. Clearly, Douglas and Selinker (1985) and Selinker and Douglas (1985) are using the concept of domain in a sense which is different from its conventional sociolinguistic meaning as understood in the research by Fishman.

For Selinker and Douglas "domain" does not refer to an interaction of some of the factors Fishman cites, but to only one of the factors, i.e. topic. The selection of domain is "odd" because it leaves one wondering as Preston (1989) rightly points out why the "latter global term (domain) has been used in place of the more accurate components of the congruent elements" (107)

However, the use of terms in interlanguage in a way which is inconsistent or different from their use in source disciplines is not restricted to "domain theory" but seems to be fairly widespread in interlanguage studies.

Swan (1987) points out that Tarone's understanding of the term vernacular is different from that of Labov. Ellis' description of variable rules is different from that of Sankoff and Labov (1979). There is "no harm" in SLA researchers feeling free to use terms in interlanguage in a way which is different from the way the terms are employed in their source disciplines as long as they point out the differences which unfortunately is rarely done.

More important however is the fact that at times SLA research closely associates itself with research outside SLA (as if to give credibility to its views) in spite of the fact that the same terms are being used differently in SLA. For example, Tarone associates her research with Labov in spite of the fact that her understanding of the term vernacular is different from that of Labov.

CHAPTER THREE: A SOCIOLINGUISTIC DESCRIPTION OF ZIMBABWE

3.0 Introduction

The aim of this chapter is to provide a sociolinguistic description of some of the characteristics of the subjects in this study. This involves identifying a number of language learner variables which may be of interest from an SLA perspective. The variables which are of interest include the following:

(1) The language background of the learner or the dialect which the learner speaks.

(2) The socio-economic background of the learner,

(3) The geographical location in which the school of the learner is situated (i.e. whether the school is located in an urban or a rural setting).

All the above, it is argued, are important in determining two factors: first, the amount of target language (TL) input the learner is expected to get outside the classroom and second, the nature of the interaction which is likely to take place inside the classroom in the TL.

In order to establish which learners are likely to be affected by the above factors it is important to initially provide a language description of Zimbabwe at a number of different levels. The description involves first describing the multilingual situation in Zimbabwe and then examining the role of English at a national level.

3.1 The Language Situation in Zimbabwe

There are three main languages spoken in Zimbabwe, Shona,

Ndebele and English. Eighty percent (80%) of the eight million Zimbabweans speak Shona. Fifteen percent (15%) speak Ndebele. There are, however, small pockets of minority language communities such as Tonga, Venda, Sotho, Chichewa, etc (Ngara 1982). Of the non-indigenous languages the largest majority are native speakers of English. McGinley (1987) puts their current number at approximately a hundred thousand (100,000). Prior to Zimbabwean independence the number of native speakers of English who were mainly of European origin was estimated at somewhere in the region of 250,000.

3.1.1 The Shona Dialect Situation

Shona has a number of different dialects. Doke (1931) identifies a number of Shona dialects, the main ones being Zezuru, Ndau, Korekore, Manyika and Kalanga. The geographical regions in which the dialects are situated are shown on the map (see appendix). For example, Manyika is situated in the north eastern part of Zimbabwe and Kalanga speakers are mainly concentrated in the south west. A majority of the subjects are drawn from the Zezuru dialect with a few subjects coming from all other dialects except Kalanga. The subjects are mainly Zezuru because the study is conducted fifty kilometres (50) from Harare in a communal area which was previously reserved for Blacks only by the previous White regimes. This geographical area is mainly populated by Zezuru speakers.

Another reason for selecting Zezuru speakers is that although Shona dialects are closely related, Zezuru shares a border with the other dialects hence tends to operate as a koine dialect (a dialect which is frequently understood and used by

users of other dialects as well). But speakers from other dialects are not completely excluded although they are in a minority. The only dialect speakers who are however completely excluded are Kalanga. Kalanga speakers are excluded because they are situated in a geographical area separate from all the other dialects. Kalanga speakers are mainly found in the south-west of the country. Because of the geographical distance from the main Shona dialects, very little communication initially took place between Shona and Kalanga speakers. The lack of communication must have led to Shona and Kalanga developing in different directions.

Although Doke classifies Kalanga as a Shona dialect there are fairly strong reasons for arguing that Kalanga is a language separate from Shona. Kalanga speakers regard what they speak as a **separate language** (Ngara 1982). The feelings that what they are speaking is a separate language are strengthened by the presence of a fairly substantial number of Kalanga speakers in neighbouring Botswana. Ruston (1968) puts the number of Kalanga speakers at nine percent in Botswana.

The final reason for excluding Kalanga is that it has come under heavy influence from Ndebele. Since the arrival of the Ndebele speakers in the mid 19th century they have dominated the politics of southern Zimbabwe and some critics would argue the situation has not radically changed today. The strong political influence of Ndebele has had a significant influence in shaping Kalanga. A configuration of all these factors has led to changes in Kalanga which have not occurred in the other dialects of Shona. Thus, in an attempt to control for L1 influence as well as dialectal differences it is felt that Kalanga speakers

should be excluded.

3.1.1.2 A Note On Ndebele

Ndebele is one of the Nguni Languages and is more closely related to Zulu than Shona. Zulu and Ndebele are mutually intelligible. Zulu speakers are mainly concentrated in South Africa where Ndebele speakers originally came from before their arrival in Zimbabwe. In spite of this strong historical connection between Ndebele and Zulu, Ndebele speakers now think what they speak is not a dialect of Zulu. Their case that Ndebele is a different language from Zulu is strengthened by the existence of a rich literature in Ndebele which is distinct from that of Zulu.

3.2 Language Policy at the National Level

At a national level English is the official language. English is the language of administration, the law courts, education and it also dominates the media. The two national dailies are in English. In spite of the clear domination of English it is difficult to maintain a unilingual policy throughout the different levels of the various institutions. For example, English is only used in the higher courts allowing Shona more room in the lower levels of the judiciary. Similarly, Shona is more likely to be used in the early stages of primary education than at secondary and university levels which are dominated by English irrespective of whether the school is situated in town or in a remote area.

The retention of English in such a powerful position after independence reflects some of the language problems Zimbabwe

faced after independence. The problems are on the one hand not unique to Zimbabwe, because they have been faced by other African countries before, but on the other hand some of the problems are unique to Zimbabwe, as will become much clearer later.

Although most independent African countries have had to decide whether to retain a former colonial language or select one of the indigeneous languages as a national language, it appears the decisions which they have made or taken on this issue are not uniform, a situation which is not completely unexpected. The decisions which have been taken by African Governments range from policies of complete retention of the former colonial languages to policies of non-retention or more accurately minimum retention. Zimbabwe and possibly Kenya fit into the first category while Somalia fits into the second category. Arguably, factors which compel Zimbabwe to retain English are in one sense not different from those which led countries such as Kenya to take similar language decisions in favour of English. The familiar argument is that English should be retained because it provides continued access to the outside world. English is the so-called language of wider communication (LWC). The argument that English is a LWC is reinforced by the presence of a few but extremely powerful group of multinationals. The second reason for the retention of English is that it facilitates a more efficient running of the country and its administration particularly in a country where the top administrators are White and monolingual. Both these considerations can be regarded as decisions based on practical reality and not sentiment. In Fishman's terms the motiviations are **nationism** and not **nationalism** (1968).

But the reasons for the retention of English in Zimbabwe are to some degree unique to Zimbabwe. The reasons have to do with the historical context in which Zimbabwe was born as a state. Scotton (1973:719) when describing the language policies of East African countries emphasises the importance of looking at the history of a country in order to gain a better understanding of the political and historical forces which shape the country's language policies:

"Present day language policies are firmly rooted in history and are instruments of those political and economic forces which are dominant."

Zimbabwe gained its independence in 1980 from White settler rule after a prolonged period of armed struggle. Under previous White regimes the interests of the White minority were promoted and safeguarded at the expense of the Blacks who were in a majority. The Whites played a dominant role in many aspects of the economy such as industry and agriculture. Because of the dominant role of the Whites in the economy, it is not surprising that their language is retained as the dominant mode of communication. The retention of English in Zimbabwe owes much more to the fact that English is the mother tongue of an extremely powerful group of Whites than that it is a language of wider communication. However, the fact that the language of wider communication and that of the dominant group incidentally coincide in Zimbabwe strengthens the case for using English and not one of the local languages as an official language.

The continued retention of English might be interpreted to

suggest that nothing much has changed in Zimbabwe because the small group of Whites still wields power clearly out of proportion with its numbers. This in itself is true but not the whole story. In pre-independent Zimbabwe the elite was mainly formed along racial lines, but in post-independent Zimbabwe the new elite includes a sizeable number of Blacks as well. Besides the obvious material wealth of the new elite there is one feature which clearly distinguishes the new elites from the ordinary Zimbabweans. The elites are highly proficient in English. A good indication of the amount of confidence the elite has in the continuing importance of English is seen in that the elite is no longer satisfied in being highly proficient in English, but now aims at making certain that their offspring do not have English as a second language but have English as a mother tongue. In future elite status might be easily attained by African native speakers of English than by African non-native speakers of English irrespective of their level of proficiency as in the past.

The continued importance of English is also seen in those areas of Zimbabwean life where the influence of the elite is easily felt as job requirements or admission to institutions of higher education. But this is exactly where the paradox begins. Most jobs require the applicant to be proficient in English, although as Robbins (1985) observes, very little English might be required to carry out the job. A Ndebele speaker, Robbins continues to observe, might find himself more in need of spoken Shona than English, when he is employed in the public (formal) sector. If English is not an essential requirement in formal employment the opposite seems to be the case in the private

(informal) sector. Because of the multi-racial and multilingual nature of urban Zimbabwe an average Zimbabwean might find proficiency in English an asset in his attempt to secure some odd job because a high degree of proficiency gives him respectability in the eyes of potential clients. In order to understand the extent to which English is expanding it is important to get a feel of the growth of the private sector first. The private sector is growing as an indirect consequence of the massive expansion in education and the inability of the public sector to employ most of the school graduates. The previous White governments operated regimes which restricted the number of students proceeding to secondary school. The number of people finishing their secondary schooling was usually small in proportion to those in the public sector hence the tendency to equate completion of Form Four (end of "O" level education) with a job.

> "But when an annual figure of a quarter of a million students leaving school is placed beside the total employees of 160,000 in manufacturing then the scale of the imbalance between formal school and formal work becomes clear" (King 1988:11).

Because of the large number of those leaving school who cannot be absorbed in the public sector the only possible source of employment is the private sector and it is in the same area that proficiency in English is becoming increasingly an asset. Thus, it is possible to argue that although language proficiency in English might no longer be an automatic passport to securing a job no one is clearly disadvantaged by being proficient in

English in the private sector.

3.2.1 Language Situation In An Urban School

In urban Zimbabwe the schools which were formerly reserved for Whites are now racially mixed. The schools also tend to be multilingual because they have a national catchment area. Because of the racial mixture and the multilingual character of urban areas, the teachers have virtually no alternative but to introduce English as a medium of instruction from the early stages of primary education. A situation it will be shown which does not necessarily obtain in other parts of the country.

From an SLA perspective it is important to observe that an average urban Zimbabwean will not be short of TL input which comes from both the media and interaction with native speakers of English. Since the aim of this study is to investigate the nature of classroom acquisition urban Zimbabweans are excluded as far as possible.

3.2.2 The Language Situation In Rural Zimbabwe

The next sections basically argue that the language situation in rural Zimbabwe is clearly different from that which obtains in the urban settings. Exposure to the TL outside the classroom in the rural setting is limited. Roller (1988) observes that in a typical rural Zimbabwean home the only books that are available are a bible and a hymn book both of which are invariably in Shona. Newspapers which might be a potential source of TL input hardly reach the rural areas because they are mainly restricted to urban settings. Although Roller observes that rural homes do have radios it is quite likely that the radio

as a potential source of TL input is not fully exploited with the rural peasants preferring to listen to programmes in the local languages than those in English.

The absence of TL input is also aggravated by the expanding role of the language functions of the local languages in the rural settings. A pattern of language development running contrary to that in the urban setting where English is increasingly replacing the local languages in the private sector. The consolidation of the functions of local languages is not the result of a deliberate government language policy, but an unexpected outcome of the consequences of the governmental policy of Universal Primary Education (UPE). The success of the UPE policy has resulted in a massive expansion of primary education. The Zimbabwean Government has also opened access to secondary schooling. The expansion can be easily seen when one takes a look at the following figures, which show dramatic increases over the figure for 1980 when there were only 6000 "O"-Level candidates:

1983	23,000
1985	92,000
1988	112,965

Once the Form One cohort of 1988 of 250,000 reaches Form Four then the secondary school population will have doubled again in a five year period (King 1988). The massive expansion in education at the two levels (i.e. primary and secondary has implications for English as a medium of instruction). The next section explores the effects of the expansion in the new educational programme on English as a medium of instruction.

The expansion of education has not taken place at the same

pace with the training of teachers. Consequently, the more proficient teachers have been given incentives to teach at higher levels of education although they were not originally trained to teach at those levels. The incentives given to primary school teachers to teach at secondary level has clearly left some primary schools with either untrained teachers or unproficient teachers or both. Because the primary school teachers lack the necessary language proficiency in the TL, they are left with no alternative except to teach in Shona or Ndebele. Using Shona or Ndebele constitutes a marked departure from the implied language policy of English as a medium of instruction throughout the educational system.

Although there are pressures to use the local languages on the teachers there is a shift from the local languages to English in the latter stages of primary education when the students encounter more proficient teachers. But even in the latter stages the observation which Serpell makes about a Zambian classroom is still equally applicable to a rural Zimbabwean classroom.

> "If you listen hard, you will hear a lot of languages other than English being spoken...so within the classroom although conversations with the teacher may generally be held in English, children tend to chat with friends in say Nyanja. The teacher will give a lesson in English but if somebody is making noise he will tell him off in Nyanja. A pupil answers the teacher's questions in English but may ask permission in Nyanja to leave the room" (1989:96).

In Zimbabwe continued interaction in Shona is encouraged by the fact that the subjects share a common L1 background. What is interesting from an SLA perspective is that very little

spontaneous interaction is likely to occur either between the teachers or between the students themselves in the TL. Spontaneous conversation in the TL is likely to be unplanned. The rural classroom environment does not therefore create conditions which permit the practice of unplanned discourse.

The language environment in a secondary school might be slightly different from that in a rural primary school. The difference lies in that there will be more input from the teacher in the TL. But again the nature of the input is not one which is likely to create conditions in which the students are likely to actively participate in the interaction. This can be largely attributed to the language teaching methodology which is being used in the classroom. Barnes (1976) draws a distinction between two types of teaching approaches. The first he refers to as the **transmission mode.** The second he describes as the **interpretation mode.** The type of interaction which is created by the two types of methodology are different. In a transmission mode the teacher **selects what** is to be talked about, **who** is going to talk and generally **what** the student is going to talk about. Because the speaking rights of the student are limited both in terms of what he is going to say and the amount that he can say it is hardly surprising that the student is not usually given enough opportunities to use language in a number different ways. Barnes (1976) and Ellis (1986) argue that such a language situation does not create an environment conducive for language learning unlike in a classroom where a teacher is mainly concerned with interpretation.

This is not the right place to go into the debate why the interpretation method might be difficult to implement in Zimbabwe

and possibly in most African countries. But it is important to point out that although secondary school teachers are generally more proficient than primary school teachers, it is still quite probable that secondary school teachers might not have acquired a level of proficiency which would permit them to be able to use the interpretation method which might turn out to be more taxing than the transmission method. Even if it is assumed that the teachers have the necessary proficiency in English it still has to be demonstrated that the actual class sizes of about forty to fifty students and the presence of immovable furniture do not make it difficult, if not impossible to implement such a programme.

Whatever is the reason for a predominant use of the transmission method it is evident that at both primary and secondary school levels there is very little opportunity for oral active interaction although there are sound pedagogical and psycholinguistic reasons for arguing that the process of language learning is facilitated by using the interpretation method more than the transmission method (Long and Porter 1985).

3.3 Conclusion

This chapter has sought to describe the sociolinguistic situation in which the subjects who took part in this study were acquiring the TL. The main point running through the chapter is that Zimbabweans acquiring the TL in an urban setting are exposed to the TL outside the classroom and should therefore be excluded in a study focussing on the acquisition of English in the classroom. This study therefore selects subjects from rural areas where their main source of target language input is the classroom teacher.

CHAPTER FOUR: LINGUISTIC STRUCTURES TO BE INVESTIGATED

4.0 Introduction

Chapter Two reviews the relevant literature on variability in SLA and concludes by proposing a framework for studying variability. The aim of this chapter is to identify the structural areas which are to be investigated within the framework of planning time. A short analysis of the 3rd person singular, spatial and directional prepositions is given first in English, the English analysis is then followed by a description of the realisation of the corresponding structures in the subjects' L1.

Finally a series of hypotheses are formulated on the basis of a cross linguistic comparison concerning the realisation of the corresponding structures in the two languages and findings from relevant studies. Before turning to a description of the individual structures it is necessary, however, to provide a broad rationale for the selection of the three structures.

4.1 Rationale for the Selection of the Linguistic Areas

The two areas are chosen because they are known to be variable in SLA and more important their variation is easily demonstrated empirically using a series of elicitation techniques which include (a) an oral recall task, (b) a picture description task and (c) a series of isolated sentences containing the structure which is experimentally being investigated.

A number of studies report that the 3rd person singular is variable in the speech of L2 learners (Fairbanks 1982; Tarone 1985; Ellis 1986, 1988). Pavesi (1987) also finds that the

performance of Italian learners of English is variable in their use of English prepositions depending on whether they are acquiring the target language (TL) in a naturalistic environment or in a formal classroom setting.

The aim of selecting the 3rd person singular and prepositions in this study is not, however, to compare the performance of learners in different settings, but to investigate whether learners at different levels of proficiency exhibit similar patterns of variation.

Another reason for selecting prepositions and the 3rd person is to see if the nature of variation differs depending on whether the morpheme is free (e.g preposition) or bound (eg 3rd person singular).

To sum up the two areas are selected to address the following issues:

To what extent is the variation observed in the following two areas systematic?

(1) the 3rd person singular

(2) spatial and directional prepositions

If the variation is systematic does the nature of the subsystem or rule change as acquisition proceeds?

To what extent is the variation affected by the morphological status of the structure i.e. whether the morpheme is bound or free?

4.2 English: Third Person Singular Present Tense

The following is a description of the 3rd person singluar. The English description is then followed by a description of the equivalent structure in the subjects' L1.

In Standard English (SE) the 3rd person is "anomalous" in that it is distinguished from all other verb forms in terms of number and person by the presence of the -s morpheme. For example:

I eat, you eat, but he/she/it eats, we eat, you eat they eat

There are therefore two present tense verb forms in SE, the 3rd person singular and the general, i.e. non-3rd person singular (Huddleston 1988).

The presence of the -s morpheme on the verb as an inflection means person and number are marked twice both on the verb and the grammatical subject. The double marking renders the rule redundant. The implications of the redundancy for SLA are examined from a functionalist perspective as formulated by Kiparsky (1972) and Poplack (1980) in section 4.2.2.1.

However, the 3rd person present tense is anomalous in SE only. Hughes and Trudgill (1972) show that usage of the 3rd person is completely regular in other dialects of English. The regularity takes two opposite forms with the morpheme either being supplied in all persons in East Anglia, or dropped in South Wales. The 3rd person is therefore categorical in all English dialects, but is realised variably between dialects because there are alternative ways of realising the same rule. The rule is expected to be variable **within** the interlanguage (IL) system for a variety of reasons. One of the reasons being the various ways in which the morpheme is phonologically realised in SE.

4.2.1 A Phonological Description of the Realisation of the Third Person Singular

The 3rd person has three allomorphs /s, z, IZ/ and the occurrence of each allomorph is governed by the phonological shape of the stem of the verb.

When a lexical stem ends in a vowel or a voiced consonant the suffix /Z/ is added as is illustrated by the following examples:

go goes/gəʊ/--/gɔɤz/

live lives/LIV/--/LIVZ

Similarly /s/ is added to the verb when the lexical stem ends in a voiceless consonant. For example,

walk walks /wa:k / --→ / wa:ks/

wake wakes /weik / --→ / weiks/

/IZ/ or its variant / z/ is added when the stem ends in a sibilant.

catch catches /kæʧ / → /kæʧɪz/

watch watches /wɔ:ʧ / → /wɔ:ʧɪz/

From the phonological description it is possible to suggest that an L2 learner might find it easier to realise the -s morpheme with some verbs than others (see section 4.2.4 for hypotheses related to difficulties in pronouncing the -s morpheme and the effects this has on grammatical accuracy.)

4.2.2 Shona : A Linguistic Description of the Third Person Rule

Shona like other Bantu languages such as Chichewa has no morpheme unique to the 3rd person present tense (Chimombo 1978). In Shona, a prefixed inflection on the verb marks the 1st/2nd/3rd

person singular and plural for all tenses. As is illustrated in the following examples:

Ndinomanya	I run
unomanya	you run
anomanya	he/she runs
tinomanya	we run
munomanya	you run
vanomanya	they run

The inflections which in Shona usually take the form of prefixes are more equivalent to English personal and impersonal pronouns, because the plural pronoun can be used to refer to a singular referent if the addressee is considered senior in status or if the situation is perceived as formal. The grammatical subject is optional when a singular pronoun refers to a singular referent, because the number and person can be inferred from the inflection. The grammatical subject is however, obligatory when a plural pronoun subject is used to refer to one person. The grammatical subject is obligatory in such contexts because its omission is likely to make the hearer think the speaker is referring to more than one person. For example:

(1) baba vanomanya The father runs

(2) mwana ano mhanya The son runs

If the grammatical subject in (1) is omitted the hearer is likely to think that reference is being made to more than one person. The grammatical subject is obligatory because its presence rules out exactly such a possibility. In (2) the omission of the grammatical subject does not lead to such a misinterpretation because the inflection indicates that reference is being made to one person and the grammatical subject simply

confirms that interpretation.

The Linguistic description of the 3rd person rule has highlighted two main factors which are likely to cause variability in IL; (1) the semantic redundancy of the 3rd person rule. (2) the number of different ways in which the morpheme is phonologicaly realised. In addition to these two factors three other factors are likely to cause variability as well; (3) the Linguistic context in which the form is situated; (4) the different planning conditions in which the text is produced; (5) the stage of proficiency the learner has reached in English. The main aim of the coming section is to explore the implications of the five factors mentioned above for variability in SLA.

4.2.2.1 Semantic Redundancy

Kiparsky (1972) and Poplack (1980) formulate what they subsequently refer to as the "functional hypothesis". The "functional hypothesis" in its original formulation aims at explaining the general tendency in languages to limit the scope of redundancy. Poplack (1980) and Young (1988) subsequently extend the hypothesis to the Spanish of Puerto Ricans and the IL of Chinese learners of English in the U.S.A. The "functional hypothesis" as formulated by Poplack (1980) is mainly used to account for variable plural marking across languages. On the basis of the "functional hypothesis" it is expected that for the plural -s morpheme, speakers would not inflect the noun when the number marking on the noun phrase (NP) has already been carried by a numeral, a plural demonstrative, a quantifier etc. If information concerning the semantic number of the noun can be retrieved from any other part of the surface structure, then

there will be a tendency not to mark such information redundantly by means of an -s plural inflection (Young 1988). Although the "functional hypothesis" has been restricted so far to the plural -s morpheme there is no reason why it cannot be extended to the 3rd person. The 3rd person is also redundant because what is carried by the inflection has to some extent been indicated by the grammatical subject. On the basis of the "funtional hypothesis" as presented so far, it is expected that once the grammatical subject has been supplied then the verb is not inflected.

But studies by Poplack (1980) and Young suggest, however, that the "functional hypothesis" as currently formulated is fundamentally flawed. The hypothesis as formulated by Kiparsky suggests that languages generally tend to impose constraints limiting the extent of redundancy. But Young and Poplack find the exact opposite to be true. For example, the presence of the morphological marker of plurality in the NP favours plural marking on the noun, and conversely the absence of a marker of plurality inhibits inflection on the noun. Labov (1980) expresses it elegantly when summarising Poplack's work by saying the presence of a marker of plurality in the NP "triggers" the -s morpheme and the absence of a marker of plurality "triggers" a zero inflection. The general tendency to increase rather than limit the extent of redundancy stems from an application of what Martinet calls the rule of least effort:

> "Concord is redundancy and contrary to what can be expected, redundancy results as a rule from least effort: people do not mind repeating if mental effort is thereby reduced". (Martinet 1962:55 in Poplack 1980a).

The reinterpretation of the "hypothesis" can be said to have the following implications for SLA. The presence of a grammatical subject creates conditions favourable for inflection and conversely the absence of a grammatical subject facilitates zero inflection hence the following hypothesis:

Ho: The presence of grammatical subject is not likely to significantly result in inflection of verbs to mark the 3rd person.

H1: The presence of grammatical subjects leads to the verbs being inflected much more than when there are zero subjects.

4.2.2.2 Linguistic Context

The grammatical subject in IL is likely to be realised in at least two possible ways, either as full NP or as a pronoun. Ellis (1987; 1988) suggests that the pronoun and the full NP have differential effects on verbal inflection. The verb is more likely to be inflected when the grammatical subject is a pronoun than when it is a full NP.

Hypothesis

Ho Verbal inflection is not likely to occur significantly more frequently when the subject is a pronoun than a full NP.

H1 Verbal inflection is likely to occur more frequently when the subject is a pronoun than a full NP.

4.2.2.3 Planning Time Hypothesis

The following section examines the effects of different planning conditions on grammatical accuracy. Morphologically, L2 learners are expected to produce uninflected verb forms

(unmarked) in unplanned discourse and produce inflected verb forms (i.e. marked) in planned discourse. Uninflected forms are unmarked in opposition to inflected forms because the former have less morphological material than the latter which are made up of a free and bound morpheme (Lyons 1968). The following is thus the markedness hypothesis:

Ho L2 learners are not likely to significantly produce more marked forms in unplanned discourse than in planned discourse.

H1 L2 learners will significantly produce more marked forms in planned discourse than in unplanned discourse.

4.2.2.4 Lexical Constraints

All the hypothesis which have been formulated so far are based on an implicit assumption that learners acquire the 3rd person creatively by applying an abstract rule. A less abstract but equally powerful hypothesis is that learners acquire the 3rd person when it is attached to specific verbs only. The rule is thus not being acquired creatively but simply as a routine. Schmidt and Frota (1986) summarise some of the findings in child language studies which show that acquisition of verbal inflection by children is highly constrained by the child's knowledge of the verb. Abraham (1984) also finds that ESL learners tend to attach the -s morpheme to specific verbs rather than distribute it randomly across verbs. Factors which Abraham cites as facilitating an early acquisition of the morpheme are the frequency with which the verb is heard in the input and the perceptual saliency of the morpheme when attached to specific verbs. In the light of the above arguments the following

hypothesis is thus formulated:

Ho: The 3rd person -s will not be clustered around a few verbs, it will be spread randomly across different verbs.

H1: The 3rd person -s will be attached to a few verbs only it will not be randomly distributed across many verbs.

4.2.2.5 Phonological Constraints

Some verbs might be inflected not so much because of their high communicative value, but because it is easy to pronounce specific verbs with particular morphemes or allomorphs. Since the 3rd person rule has three allomorphs it is natural to expect that some allomorphs may be easier to pronounce than others. Heckler (1975) finds that the /s, z/ allomorphs are acquired before /IZ/.

The fact that verbs ending with /IZ/ are acquired after verbs ending with other allomorphs in the Heckler study should not be explained in terms of how difficult it is to pronounce verbs ending with /IZ/ only. Another fact might simply be that the final consonants of the uninflected (base forms) sound right because of the presence of a sibilant (Lightbown 1983).

Ho: Accuracy in the production of the -s morpheme is not constrained by pronunciation difficulties.

H1: Accuracy in the production of the -s morpheme is constrained by pronunciation difficulties.

4.2.3 Conclusion

It is important to conclude this section by grouping the various factors which are likely to cause IL variation into two depending on whether they affect elementary or advanced learners.

It is plausible that the effects of different phonological environments and knowledge of the lexicon will contribute to variability more at elementary stages than at advanced levels because what is required of the learner in both cases is to simply perform the following two operations:

(a) learn to pronounce particular verbs with one of the allomorphs of the 3rd person

(b) learn the rule holophrastically i.e. the subject is only able to use the rule when attached to specific verbs only.

Factors such as planning time and linguistic contexts will contribute to variation at later stages of IL development because they involve more complex psycholinguistic operations. Variation due to planning time requires the learner to use unmarked forms in unplanned discourse and marked forms in marked discourse. This implies that the learner has both unmarked/marked forms in his IL competence, which presupposes a degree of complexification of knowledge which cannot be expected in early stages of language development. Ellis (1987) has argued that in early stages of IL development language acquisition is likely to be characterised by the presence of unmarked forms.

Variation due to linguistic context is expected to occur if the learner has a number of variants which he matches with different linguistic contexts. This in itself again presupposes the existence not only of a number of different variants but different linguistic contexts as well. The types of linguistic contexts produced by the learner are much more varied at advanced stages of IL because of the increasing grammaticisation which occurs as a function of increasing proficiency (Givón 1975;

Rutherford 1988). What this all amounts to is that learners at different levels of proficiency are sensitive to different factors which interact in a complex way to cause variability.

4.3 Spatial and Directional Prepositions

Introduction

The previous section focusses mainly on the 3rd person singular and identifies a number of factors which are likely to result in variable IL performance e.g. linguistic context, planning time, etc. The coming section concentrates on spatial and directional prepositions. A similar approach to the one which has been used in an investigation of the 3rd person singular is followed here also. The approach basically consists of providing a brief rationale for the selection of spatial and directional prepositions followed by a description of the realisation of spatial and directional prepositions in English and Shona. This section is then concluded by formulating a series of hypotheses relevant to this study.

4.3.1 Rationale for the Selection of Spatial and Directional Prepositions

The study is interested in investigating L2 usage of a clearly restricted number of spatial and directional prepositions to at and from. It will be argued in the description that these prepositions constitute a natural linguistic subsystem because they can be distinguished on the basis of the following two criteria. Location versus movement and positive versus negative directionality. By looking at a natural linguistic subsystem the study avoids the criticism that it is looking at L2

performance on dissimilar morphemes which are consequently not likely to shed much light on the process of L2 acquisition (Hatch 1983).

The interesting point of investigating the acquisition of English prepositions by Shona speakers of English lies in that although English makes a separate distinction between prepositions marked for location e.g. at and prepositions marked for movement e.g. to, in Shona the same prepositions are marked for both location and movement. At the same time there are other subtle distinctions which are made in Shona prepositions which are absent from the restricted set of English prepositions being studied here. For example, Shona draws a distinction between intermediate and ultimate destination while the English prepositions studied here are only marked for movement. Prepositions therefore constitute an interesting area of investigation because Shona makes some distinctions which English does not make, and conversely English makes certain distinctions which are not made in Shona. Consequently, there is no one-to-one correspondence between Shona and English which is likely to facilitate learning of particular prepositions. Idiomatic expressions are excluded because the prepositions are likely to be acquired as part of a unit, and the usage of the idiomatic expression does not necessarily reflect a creative application of a linguistic rule.

4.3.2 English

A Description of Spatial and Directional Prepositions

After having rationalised the selection of spatial and directional prepositions it is now necessary to attempt to define

the set of prepositions within an explicit psycholinguistic framework which will partially form the basis on which some of the hypotheses are going to be formulated.

The prepositions here are defined within the semantic complexity hypothesis (SCH) (H. Clark 1973). The SCH is derived mainly from psycholinguistic research in child language studies, although Clark also draws support for his hypothesis from other disciplines such as biology and physics. The central and most powerful claim Clark is making is the existence of a correlation between perceptual space (p-space) and linguistic space (l-space). P-space is directly related to how human beings perceive and confront spatial experiences. Clark argues that the more complex P-space is, the more complex it is represented linguistically. For instance, in the SCH it is argued that temporal uses of prepositions are more complex than spatial uses because the former involve metaphorically situating an event in time as opposed to locating the event spatially. Traugott (1974) provides diachronic support for Clark's claim by pointing out that in English diachronically all temporal prepositions had spatial uses. Thus, prepositions demonstrated spatial uses before developing temporal functions and that those prepositions (e.g. for, since and till) which currently have temporal functions only used to have spatial functions in the past (Traugott).

Location in the SCH is more basic, or in Clark's terms is the least complex relationship. Complexity, is defined in terms of the number of semantic features or rules of application which include the following:

(i) the number of dimensions of the reference point

(ii) location versus movement

(iii) positive versus negative directionality

An increase in the number of dimensions represents an increase in the number of semantic features. Movement as opposed to location is an additional feature and so is negative directionality when compared with positive directionality. In the SCH location is more basic than movement. To is more complex than at because the correct usage of to presupposes the following:

(i) that the space is zero dimensional

(ii) that the subject of the preposition is moving in that direction

At only presupposes that the space is zero dimensional. For example:

(i) John is standing at the bus stop

(ii) John is going to the bus stop

In both (i) and (ii) the bus stop is perceived as a geometrical point. But in (ii) there is in addition to the location being perceived as a point movement towards that point as well.[1]

From is more complex than to and at because it does not only presuppose both location in zero dimensional space and movement, but it also specifies that the direction is not positive. For example, He went away from the station, which according to Leech (1968) means he came by motion to be not at the station; hence reversing the initial movement to the station.

Based on the notion of linguistic complexity H. Clark predicts that the order of acquisition of prepositions will be constrained by their linguistic complexity. Clark posits that the order of acquisition of English spatial terms is constrained by their rules of application .

"the complexity hypothesis claims that given the terms A and B where B requires all rules of application of A plus one or more in addition, A will normally be acquired before B" (Clark 1973:29)"

In the light of the SCH the following order of acquisition for spatial/directional prepositions being studied here is expected;

AT› TO› FROM

this means that a learner's IL which exhibits **from** is likely to exhibit to and at but a learner's IL which exhibits at does not necessarily exhibit to and **from.**[2]

4.3.2.1 A Linguistic Description of Shona Prepositions

After having analysed English prepositions it is now appropriate to attempt a description of the realisation of prepositions in the subjects' L1. Shona has only three forms which may be defined as prepositions **ku-**, **pa-** and **mu.** Languages are divided into two groups depending on whether the prepositions come before or after the noun being modified. (Greenberg 1963 and Comrie 1985). In Shona prepositions generally come before the noun being modified but in some cases the same preposition is repeated after the noun producing what may be called **discontinuous** prepositions. For e.g.

mumbamo in the house in

patafulapo on the table on

The repetition makes the prepositions quite salient to Shona speakers (see section 4.3.2.2). Prepositions are also repeated after the noun in other Bantu languages for example in Chichewa (see Chimombo 1978).

Table One identifies some of the parameters along which Shona prepositions are distinguished.

Prep	Dim	Stat	Dyn	Pos Neg Dir	Prox	Interm goal	Ultimate goal
Pa	Zero	+	+	+	+	+	-
Ku	One/two	+	+	+	-	-	+
Mu	Two/three	+	+	+	+	-	+

Pos. Positive directionality
Neg. Negative directionality

Abbreviations

Prep.	Preposition
Dim.	Number of dimensions
Static	Static
Dyn.	Dynamic
Prox.	Proximity
Interm.	Intermediate

KEY

The (+) sign indicates that the preposition has the marked feature. For example, pa is marked for both positive and negative directionality. This means pa does not distinguish between movement towards and movement away from a specific location. The (-) shows that the preposition does not carry the marked feature. For example, pa is not used when focusing on the end goal of the movement. This means that pa is only used when the speaker thinks that the movement is towards an intermediate destination.

The absence of a distinction between location and movement is not peculiar to Shona. Many languages do not distinguish between location and movement.

For example, French, Italian and pidgin languages do not distinguish between location and movement (Mougeon, Canale and Caroll 1979; Pavesi 1987 and Traugott). Indeed even in English the distinction between location and movement is sometimes neutralised when a static preposition is used instead of a dynamic preposition particularly in an informal situational context, for example:

(i) The young boys swam in the river

(ii) The young boys got on the bus

Thus the absence of a distinction between static and dynamic prepositions seems to be fairly common across languages. Indeed it is possible to argue that it is only at and to which are mutually exclusive in English with in and on frequently occurring in dynamic contexts as stylistic variants of into and onto respectively (Leech 1968).

Movement in Shona is expressed in three distinct ways. The speaker uses ku when focusing on the end point of the movement which is perceived as both distant and remote.

(i) Akaenda kutawindi : He went to town

(ii) Akaenda kurwizi : He went to the river

The preposition mu is used to express movement to an ultimate destination which unlike ku is seen as near or not remote.

(ii) Akapinda mumba : He went into the house

Finally pa-is used to indicate movement towards an intermediate goal.

(iii) **Akapfuura nepamba : He passed by the house**

To sum up the description of the prepositions, it is necessary to identify key factors which are likely to have implications for the acquisition of English prepositions by Shona learners. The following are thus the main factors:

(i) The absence of a distinction between **location** and **movement** in Shona and the possibility of static prepositions being stylistic variants of dynamic prepositions in the TL.

(ii) The salient features of Shona prepositions due to their repetition as suffixes

(iii) The hierarchically ordered acquisition of English prepositions derived from the SCH.

There are other factors which contribute towards the variability of English prepositions in the speech of Shona learners.

(iv) The learners are probably going to be able to use particular prepositions when attached to specific verbs only.

(v) The accuracy of the learner is likely to be affected by the planning conditions in which the discourse is produced.

Bearing the above five factors in mind, a series of hypotheses are now formulated.

4.3.2.2 Location and Movement : Hypothesis

Direct transfer would predict that Shona learners of English would use **at** to express movement to because the distinction between **location** and **movement** is not coded in the preposition but is lexicalized in the verb in Shona. Transfer is further facilitated by the absence of a similar distinction in the TL.

Ho:Shona learners are not expected to use static prepositions to express movement.

H1:Shona learners are expected to use at to express movement to.

4.3.2.3 The Effects of Salient Prepositions: Hypothesis

The fact that Shona prepositions occur prenominally and at times postnominally is expected to make it easy for Shona learners to perceive prepositions in the English input. Shona learners are therefore likely to think that they are expected to use prepositions in their IL. Consequently, they are not likely to use zero prepositions.

Ho Shona learners are likely to use zero prepositions where prepositions are obligatory in the TL.

H1 Shona learners are likely not to use zero prepositions where prepositions are obligatory.

4.3.2.4 Predictions Based on the SCH

L2 accuracy in the use of prepositions is constrained by the complexity of the preposition being used. Learners are expected to be most accurate when using the preposition **at** which is the least complex. They are also expected to be least accurate when using the preposition **from** which is the most complex. The following is thus the hypothesis consistent with the SCH:

Ho: Accuracy in the use of spatial and directional prepositions is constrained by the complexity of the prepositions.

H1: L2 accuracy is constrained by the complexity of individual prepositions.

4.3.2.5 Lexical Constraints: Hypothesis

Formal learners may initially learn particular verbs of motion holophrastically. The learner may thus use a particular preposition when attached to a particular verb. For example, learners may be able to use the preposition to when attached to verbs of motion such as go. But the strategy of acquiring prepositions such as to when attached to verbs of motion is not necessarily restricted to learners acquiring the TL in a formal classroom setting. Schumann (1986) in a study of how basilang speakers express location and movement finds that one of his subjects using a similar strategy although the subject has not received any formal instruction in English. This suggests that the strategy of acquiring dynamic prepositions with verbs of motion might in actual fact be fairly common among second language learners. Pavesi is however right to point out that the strategy is likely to be encouraged among formal learners because of the extensive use of classroom drills. In the light of this argument, the following hypothesis concerning the acquisition of dynamic prepositions is now formulated:

Ho: second language learners are not expected to acquire particular prepositions when attached to individual verbs of motion only.

H1: second language learners are expected to acquire particular prepositions when the prepositions are attached to individual verbs of motion.

4.3.2.6 Planning Time: Hypothesis

The final hypothesis which is examined here looks at the effects of manipulating the amount of planning time subjects spend on their accuracy in the use of prepositions. Ellis

(1987) compares how a group of intermediate learners perform on (a) the regular past (b) the irregular past (c) the copula when narrating a story in three different planning conditions;
(a) planned writing (b) unplanned writing (c) unplanned speech. There are no studies available at the moment which look at the effects of planning time in the use of prepositions, but it is quite likely that marked prepositions are going to demonstrate a higher degree of sensitivity to variation in planning time than unmarked prepositions. The degree of markedness of the prepositions studied here correlates with their semantic complexity. Since the preposition **at** is the least complex, it is also the least marked. Conversely, because the preposition **from** is the most complex it consequently becomes the most marked of the three preposiitons. The preposition **from** is thus expected to exhibit the highest degree of variability because it is the most marked.

Ho The most marked preposition will not be the most variable

H1 The most marked preposition will exhibit the highest degree of variability.

4.3.3 Conclusion

This section has sought to identify a number of individual factors which may potentially contribute to variable IL behaviour. The aim of this conclusion is to point out that it is not plausible to find evidence supporting each of the individual hypotheses. The hypotheses contradict each other when taken as a group. This can be easily illustrated by taking three of the following hypotheses;

(1) The SCH

(2) The lexical constraints hypothesis

(3) The planning time and markedness hypothesis

As pointed out earlier, the SCH predicts that L2 accuracy is constrained by the psycholinguistic complexity of each individual preposition. But the lexical constraints hypothesis makes predictions which exactly contradict those of the SCH. It is possible for second language learners to acquire more complex or more marked prepositions when the preposition is part of a specific verb - in such cases the learner will be more accurate on more complex prepositions than on less complex ones. If the learner has acquired more marked prepositions which he is able to use in unplanned discourse then presumably the marked prepositions will not be sensitive to changes in planning time. Thus, although there are a large number of individual factors which contribute to variable IL behaviour, there are some individual factors which may prove to be more powerful determinants of language variability than others.

4.4 Intuitional Judgements and Production

Introduction

In the previous section the main focus has been on identifying factors around which IL may vary. The investigation in the coming section is widened to include intuitional judgements as well, with the aim of examining the relationship between IL production and intuitional judgements. The relationship between judgements and production may be complicated by the indeterminate nature of L2 intuitions Schachter, Tyson and Diffley (1976) and the variability of IL production. Because of the indeterminacy of L2 intuitions it is necessary to look

more closely at the extent to which L2 Acceptability Judgements (AJ) are going to be consistent. The aims of the coming section are therefore three-fold:

(i) To examine the extent of the agreement in the linguistic judgements made by the same informant in different replications of the same test on identical structures (i.e. intra-subject consistency).

(ii) To examine the extent of the agreement in the linguistic judgements made by informants at different stages of the acquisitional process (i.e. inter-subject consistency).

(iii) To examine the extent to which indeterminate linguistic intuitions are consistent with variable IL production.

4.4.1 Consistency in Acceptability Judgements

Learners may be inconsistent in their judgements because of the indeterminate character of their L2 intuitions. Indeterminacy of L2 intuitions has been broadly defined as "The absence of a clear grammaticality status in the learner's linguistic competence" (Sorace 1988:181).

Variability at an intuitional level may be attributed to a large number of factors, some of which are enumerated below:

(i) the type of input the learner is exposed to.

(ii) the unstable nature of IL grammars.

(iii) the cognitive strategies employed by the learner in different experimental conditions and

(iv) the order in which the experimental sentences are presented.

The above list is not intended to be exhaustive but simply includes those factors which are regarded as directly relevant to

this piece of research. Each of the above factors will be looked at and discussed in turn.

4.4.1.1 Input

Sorace has argued that variation at an intuitional level may be a partial outcome of the type of input the learner is exposed to. In a formal classroom setting the learner receives input which is severely restricted in both scope and variety as opposed to the learner acquiring the TL in a naturalistic environment where the input is rich and diverse. Because of the extremely limited input the learner is receiving in a formal classroom setting, the learner is deprived of the necessary information which might be useful in setting parameters. The absence of triggering evidence compels the learner to adopt a number of conflicting hypotheses which are not either easily confirmed or disconfirmed resulting in a high degree of intra-subject variability.

The absence of triggering evidence may potentially create a high degree of inter-subject variability as well. The absence of crucial evidence may compel learners to adopt idiosyncratic hypotheses about the TL. Again the hypothesis may not be confirmed or disconfirmed for quite a length of time. Consequently indeterminacy in intuitions may be expected to persist for quite a long time in non-native grammars.

4.4.1.2 The Permeability of Non-Native Grammars

Language learners may be variable in their AJ because of the permeability of their IL system. In Chapter Two it is argued that permeability plays an important role in IL

development and that language change is indeed possible because the IL system still retains a high degree of permeability. Variations in AJ may be a partial consequence of the continued permeability of the IL system. The permeability may produce indeterminacy in areas which were previously determinate as the learner incorporates more knowledge about the TL, hence destabilising areas which were previously stable. Increasing indeterminacy may be a function of proficiency with a high degree of indeterminacy expected to occur at intermediate stages of language development (White 1985).

But evidence from Coppieters (1987) suggests that indeterminacy need not necessarily be lost after learners have gone beyond intermediate stages of language development. Coppieters investigates the competence differences between native speakers and highly advanced non-native speakers in areas such as the distinction between the 3rd person pronouns 'il/elle' and 'ce' and that between preposed and postposed adjectives. On the one hand she finds a high degree of agreement in the judgements made by native speakers, but on the other hand, there is extensive variation in the judgements made by the advanced non-native speakers. This suggests that IL may still be variable at an intuitional level even among highly advanced learners. Given the high degree of proficiency of Coppieter's subjects Sorace (1988) suggests that it is possible to argue that the subjects' linguistic rules have fossilised. Indeterminacy among highly advanced learners should however be distinguished from indeterminacy which has been known to occur in early stages of IL development. Early IL indeterminacy usually occurs not because the rule has an unclear grammaticality status in the learner's IL

competence but simply because the learner has not yet internalized particular rules which are part of the TL. Studies by Schachter et al and Gass (1983) are primarily concerned with such early indeterminacy. It is not hard to imagine that a learner who has no alternative but to judge the acceptability of sentences which contain structures which are not represented in his IL grammar would simply resort to guessing. Guessing would result in random variation which should consequently be distinguished from variation arising due to the unclear grammaticality status of the construction in the learner's grammar.

4.4.1.3 Cognitive Strategies

The experimental conditions within which AJ are made are likely to have a strong effect on the nature of the judgements which are made. For example, AJ made when the experimental time is extremely limited are likely to be different from those made when the experimental time is not restricted. This suggests that a learner may shift the criterion on which he makes judgements when exposed to the same set of sentences in different experimental conditions. When a learner is compelled to judge the acceptability of sentences when the amount of time is strictly limited, the learner might find it difficult if not impossible to exploit his formal metalinguistic knowledge. In such a situation the learner does not have any alternative except to have recourse to his intuitive knowledge. Of course, the assumption here is that the learner has some knowledge of the TL represented in one form or other in his IL grammar. If the absence of time makes it hard to access formalised metalinguistic

knowledge then AJ made in relaxed experimental conditions should facilitate the exploitation of such metalingual knjowledge. The exploitation may have two contradictory outcomes;

(1) the learner may become more strict or more lenient.

(2) the judgements become more strict when sentences are judged to be more ungrammatical than previously.

When the learner is permitted experimentally unlimited time he may employ cognitive strategies which are time-consuming. The learner may attempt to match experimental sentences with ideal sentences which he generates in his mind. The matching involves using a much more rigid syntactic criterion which involves consciously checking whether the sentences meet his syntactic expectations or not (Nagata 1988).

The opposite can also happen, the learner may become less strict, increasingly accepting sentences which he previously rejected. The availability of time gives the learner room to situate the experimental sentences in a linguistic and situational context which increases the degree of acceptability of the sentences. Consequently, sentences judged in restricted time and those judged in relaxed time conditions correspond with those sentences judged in isolation and those judged in context respectively. Indeed Hill (1961), Bolinger (1968) and Bever (1970) provide evidence which indicates that sentences judged in context are judged differently from those judged in isolation.

4.4.1.4 Order Of Presentation Of Sentences

Variations in AJ can also be influenced by the order in which the sentences are presented. Greenbaum (1976) shows that sentences which are presented earlier are judged to be less

grammatical than those which are presented later. This seems to suggest that the frequency with which the subjects encounter the sentences has a liberating effect on their judgements making them less strict than previously. Levelt (1971) and Snow (1974) show that sentences of doubtful grammaticality are likely to be regarded as grammatical if they are placed against patently ungrammatical sentences. Similarly sentences of doubtful grammaticality may be regarded as ungrammatical if they are placed after a series of clearly grammatical sentences.

After having isolated a number of factors which may cause learners to be variable in their AJ the following section outlines four possible ways in which AJ are theoretically related to production.

(i) The learner is able to correctly produce the construction but is still unable to make an accurate judgement on the same structure. This is however not very common. (An accurate judgement implies that the learner is able to distinguish acceptable sentences from unacceptable ones.

(ii) The learner is unable to correctly produce the construction but is nevertheless able to make an accurate judgement.

(iii) The learner is neither able to accurately produce the construction nor to judge its grammaticality status.

(iv) The learner is able to both correctly judge and produce the same construction.

The question of the relationship between production and AJ raises a fundamental issue concerning whether the system underlying L2 production is the same as the one used when the learner is making AJ. If the system underlying production is the same as the one which forms the basis on which AJ are made

then it is reasonable to expect a high degree of consistency between judgements and production. There does seem to be some evidence of a fairly convincing nature that there is a high degree of consistency between what speakers judge and what they find acceptable. Quirk and Svartvik (1966), Greenbaum and Quirk (1970) report that judgements of acceptability correlate highly with performance. This points to the fact that the system underlying production is not very dissimilar to the one which is activated when AJ are made when extra linguistic factors are carefully controlled for.

There is reason to suspect that the situation may be different for second language learners. Snow and Meijer (1975) point out that the development of L2 linguistic intuitions seems to lag behind capabilities such as production. Because of the developmental differences between intuitions and production Snow et al. regard production as primary and intuitions as secondary.

A developmental psycholinguist is likely to explain the fact that intuitions seem to develop much later than production by suggesting that a certain level of cognitive maturity is an essential prerequisite for a learner to be able to judge the acceptability of sentences. The ability to judge presupposes an ability to focus on the language as a code, in other words the ability entails being able to look at and treat language in a decontextualised form. This capability can surely not be expected to take place before the learner has reached what Piaget and Inhelder (1956) call the formal operational stage.

But the argument that there is a minimum level of cognitive maturity which has to be reached before an individual can develop the ability to make acceptability judgements ought

not to be pressed too far.

In SLA studies most subjects are adults who are clearly beyond the formal operational stage and hence can reasonably be expected to have the necessary cognitive capabilities to formalise their metalingual knowledge.

One way of handling the problem which arises when learners are able to accurately produce some constructions without being able to make accurate judgements is by using the distinction between **competence** and **control** proposed by Bialystok and Sharwood Smith (1987). The distinction between competence and control has been discussed in Chapter Two. In the Bialystok et al model a basic distinction is drawn between competence and control and the two are expected to develop independently of each other. Theoretically it opens up the possibility of two acquisitional orders; competence orders being different from control acquisitional orders. Learners who are therefore able to produce a particular construction but do not have any analysed knowledge of the same construction can be said to have the necessary performance without competence. Presumably learners who can perform but do not have the competence are using language holophrastically. The opposite of performing without the necessary competence is competence minus performance. Learners who have the necessary competence may have developed a highly analyzed knowledge of the TL but still have to develop the capacity to produce the structure in real time production. The inability to produce the construction may arise because the speaker assigns low priority to being able to use the construction in real time possibly because the construction is semantically redundant.

The third and fourth possibilities are the least interesting theoretically because in both cases we are talking of two types of learners. In one case the learner neither has the competence nor the control capability. In another case the learner has both the competence and the control capability.

4.4.2 Concluding Hypotheses

In the light of the preceding discussions two points can be made. First, the AJ made by the learners are likely to be variable. Second, a degree of inconsistency should be expected between linguistic judgements and production for Shona learners because the subjects are acquiring the TL in a formal classroom setting which fosters the growth of metalingual knowledge and not production.

Ho: The learners' AJ are not variable and are consistent with their production.

H1: The AJ of the learner are variable and are inconsistent with his production.

CHAPTER FOUR

FOOTNOTES

1. Miller (1985) argues that at also occurs with verbs of motion. He cites the following sentence in support of his agrument.

(a) They ran at the enemy

The example Miller cites seems to reflect an idiomatic usage of at and as pointed out in this Chapter the acquisition of idiomatic uses of prepositions, although interesting, falls outside the immediate scope of the current enquiry.

2. There are similarities between the semantic complexity hypothesis formulated by Clark and Linguistic descriptions of Localism (See Anderson 1977 and Miller 1985).

Localism like the SCH works on an assumption that spatial relations constitute the basis on which Linguistic descriptions should be based. In spite of the similarities between localism and the SCH "it is not always clear to what extent the psycholinguists have been set off in pursuit of an idea by Linguistic descriptions" (Miller 1985:135)

CHAPTER FIVE: EXPERIMENTAL DESIGN

5.0 Introduction

The previous chapters have looked at the following three areas:

(a) the nature of variability in second language acquisition (SLA)

(b) the sociolinguistic characteristics of the geographical area in which the fieldwork is carried out.

(c) the two linguistic areas which are investigated

This chapter provides a description of the elicitation instruments which are used in the data elicitation and a rationale for the order in which the tasks are administered. But before describing the experimental design it is necessary to provide a description of the proficiency levels of the subjects taking part in the study.

5.1 Cross Sectional Design

The subjects in this study are at three different levels of proficiency; elementary, intermediate and advanced respectively.

5.1.1 Elementary

The elementary subjects are in their fourth year of primary education. Because their exposure to English is mainly restricted to the classroom, it is possible to argue that this is the fourth year in which they are systematically exposed to the Target language (TL), but it is important to bear in mind that

the field work is carried out when the subjects are at the beginning of the second year in which English is being used as the medium of instruction. Shona their mother tongue (MT) is the medium of instruction in their first two years at primary school as has already been pointed out in Chapter Three. A minimum number of fourteen subjects (N=14) from this level participates in the research. They are all between ten (10) and eleven (11) years of age. The number of subjects who participate in each task tends to vary greatly, so the core group refers to the minimum number of subjects who particpate in all the tasks throughout the entire experiment.

5.1.2 Intermediate

There are at least sixteen (N=16) intermediate subjects in this study who are all between thirteen (13) and fifteen (15) years old. The intermediate subjects have received seven (7) years of primary education and spent two years at secondary school. The subjects have therefore been systematically exposed to the TL for nine (9) years. The number of years which the intermediate subjects have spent in school generally correlates highly with length of exposure to the TL because most of the subjects' exposure to the TL is confined to the classroom. The subjects' length of stay in school corresponds with length of exposure to English because the intermediate subjects unlike the elementary group began their education just before Zimbabwe became independent (i.e. before 1980) when the nature of the educational system was such that the subjects where likely to be exposed to English from their first day at primary school. The

introduction of English as a medium of instruction had not yet been delayed until the subjects had spent two or more years at school as is the case in post-independent Zimbabwe in most rural areas at present.

5.1.3 Advanced

The advanced subjects are first year university science students. The students are all taken from the same discipline for two main reasons. First the proficiency of Science students is generally higher than that of Arts students because the "better" students are generally encouraged to take Science subjects. Thus, if the subjects are taken from different disciplines there would be a high degree of inter-subject variation depending on the subjects' academic discipline with the Science students being the most proficient and the Arts students being the least proficient. In order to make the advanced group as homogeneous as possible it is therefore necessary to draw the subjects from the same discipline. The phenomenon of language proficiency varying with the academic background of the subjects is not peculiar to Zimbabwe. Barko (1987) reports on the existence of a similar phenomenon in the English of Iraqi students with Medical students being the most proficient and Economics students being the least proficient.

The second reason for selecting Science students is based on the speculation by Nickel (1973) that the Acceptability Judgements (AJ) of Native Speakers (NS) are likely to be influenced by their academic background with the judgements made by Arts students likely to be different from those made by Science students. It is not clear what effect academic

background will have, if any at all, on the judgements made by second language learners. But in anticipation of the potential influence of academic training on the performance of the advanced subjects particularly in their AJs, it is felt that the informants should all come from the same Faculty. If it is not established, on the one hand, whether the AJs made by language learners will be affected by their academic background, it is fairly clear on the other hand, that the general proficiency of Zimbabwean students is affected by the type of school the students attend (King 1988). Because of the effect of type of school on the general language proficiency of Zimbabwean students it is felt that the university students should have attended schools which are similar to those attended by the elementary and intermediate subjects in this study.

The university subjects have received a total of sixteen (16) years of exposure to English. They are between nineteen (19) and twenty-one (21) years of age. Data from the university students are elicited as quickly as possible after the beginning of the university academic year because the university is highly multilingual and multiracial. Thus, in order to control for exposure to the TL outside the classroom, it is felt the data collection should be completed as quickly as possible after the beginning of the students' first year.

Table 2 provides a profile of the subjects in this study taking into account factors such as Age, Level of Proficiency etc.

Education	Proficiency	Age Range	Length of Exposure	Minimum Number of Participants
Primary	Elementary	10-11 yrs	4 yrs	14
Secondary	Intermediate	13-15	9	16
University	Advanced	20-21	16	11

Table 2: Subjects' profile

Table 3 is a research matrix which forms the basis on which the construction of elicitation tasks is based and the table also identifies some of the variables which are relevant to the construction of each task such as linguistic context, focus of attention etc.

planned production	+ time +focus on message	-time +focus on message	unplanned production
timed AJ	+ time + focus on form	- time + focus on form	untimed AJ
analysed metalingual knowledge (+)		unanalysed metalingual knowledge (-)	

Task Variables

(1) time

(2) focus

(3) linguistic context

(4) metalinguistic knowledge

Table 3: research matrix and task variables

There are two main sorts of data which are elicited; production, and intuitional data. Corder (1973) justifies the use of both production and intuitional data by arguing that the two are related at two levels of adequacy namely observational and descriptive adequacy. He proceeds to argue that:-

"a description based only on textual data (Corder's term for production data) cannot achieve more than observational adequacy. As we know there are an indefinite number of observationally adequate grammars possible for a textual corpus. To be descriptively adequate, however, a grammar must accord with the intuitions of a native speaker."
(Corder 1973: 41)

The main point Corder is making is that what he calls "textual data" needs to be supplemented with intuitional data because the former as a sample tends to be biased. Production data tends to be biased because of two factors. On the one hand, the learner only produces those linguistic forms which he thinks are required by the elicitation task. Thus, in a sense the task imposes constraints on the production of the learner; the constraints are externally induced. On the other hand, the constraints can also be induced by factors internal to the learner because there are two possible ways in which the learner

limits what he is going to say. First, the learner will not produce those forms which he does not have much confidence in irrespective of whether the learner thinks the forms are required by the task or not.

Second, the learner will not produce the same form in some linguistic contexts irrespective of the opportunities to do so in discourse which is not "grammaticised" (See Chapter Two Section 2.4.2 for the concept of grammaticisation.) Thus, in order to get information about the learner's knowledge of a specific linguistic form in those linguistic contexts which do not readily occur in his IL production, it might be necessary to ask the learner to judge the acceptability of sentences which contain the linguistic form situated in exactly those linguistic contexts which are not readily found in his IL production. For example, the 3rd person singular might not frequently occur as part of a second dependent clause in a complex sentence in a learner's IL: **The man who was here lives in Harare.** In order to gain insight into the learner's knowledge concerning this linguistic form when it is part of a complex sentence it might be necessary to include complex sentences in the AJ. To sum up, intuitional and production data are both used because it is felt that a more comprehensive picture of the learner's IL is gained by using both sorts of data i.e. intuitional and production data.

The argument advanced so far in support of using both intuitional and production data obviously rests on an implied assumption that intuitional and production data are different sorts of data in the first place. It is important to take a closer albeit brief look at this implied assumption. The distinction between intuitional and production data rests to some

degree on an idealisation. The classification of intuitional and production data as different sorts of data overlooks the fact that in cases where the subject is required to verbalise complex rules the learner's intuitional knowledge is mediated through production. In other words, access to the learner's metalingual knowledge is gained indirectly via the learner's production. However, the idealisation, it is argued is not only necessary but valid as well in spite of the fact that it overlooks the cases where intuitional data are classified as production data.

5.2 Production Data

The aim of the research, as already shown, in the research matrix in section 5.1 is to compare L2 performance in **unplanned speech** and **planned writing.** Unplanned speech is elicited using an oral recall task through a description of a series of pictures. The oral recall task is expected to elicit the 3rd person singular (see section 5.3.2) while the picture description (PDT) is aiming at eliciting spatial and directional prepositions respectively. It is felt that the two tasks elicit discourse which is unplanned because in both cases the tasks require an almost **spontaneous description of pictures and an immediate recall** of a stimulus text. In both cases the subjects are not given "prespeaking time" and the availability of "prespeaking time" is central to the definition of planning. It is also felt that prior planning is made difficult because the subjects are not only unfamiliar with the tasks but more important the subjects are expected to carry out the tasks in extremely limited time. The heavy time pressures imposed on the subjects make it difficult for them to plan either before production or during the process of production.

If the absence of time limits the subjects' ability to plan, the presence of time should conversely have given the subjects opportunities to plan. After producing the spoken version the subjects are encouraged to produce a written version of the same story which they have initially produced orally. Thus, in a sense the subjects are repeating the same task and hence can be expected to be more familiar with the task than they are during the oral production when they are producing the story for the first time. Planning in the written version is also enhanced by the availability of experimentally unlimited time which does not impose psycholinguistic constraints on their capabilities to plan. In summary, it can be said that the study basically consists of repeating the same task in different conditions. Some of the conditions which are being manipulated are topic familiarity and the availability of time.

5.2.1 Intuitional Data

Intuitional data are elicited in two ways:

(1) Acceptability Judgements (Details of the administration of the AJ are given in section 5.3.4)

An interview is also conducted to assess the degree of analyticity of the subjects' knowledge concerning the structures which are being investigated.

The intuitional data are elicited after the production data in order not to sensitise the subjects to the linguistic forms which are being investigated. It is assumed that if the AJs are administered before production the subjects might become aware of the linguistic structures which are being investigated. Thus, to control for such influences the AJs are administered

after the production data are elicited.

5.3 Morphology : The Third Person Singular

The aim of the following sections is to provide a detailed description of how the tasks aiming at eliciting the 3rd person singular are constructed. The subjects are asked to listen and subsequently recall a story which describes the habitual activities of two brothers. The story describes what two brothers do in a typical school day beginning from the time they leave home in the morning until their return in the evening after school. The vocabulary in the story is kept as simple as possible so that it is within the lexical competence of the elementary subjects who are expected to have the lowest lexical competence among the three groups. A total of sixteen (16) verb tokens appear in the oral recall story. Some examples of the verbs which frequently occur in the stimulus text are **live, eat, go.** An attempt is made to make sure that the subjects have previously encountered all if not most of the verbs in the story by both checking with the teachers of the elementary subjects and independently verifying by using the text books which provide along with their teachers their main source of TL input. Because there are a total of 16 verbs in the story, the researcher expects each subject to produce at least three or five verb forms during the recall task.

5.3.1 Linguistic Context

The aim is not to have a number of different verbs only but to have the same verbs in different linguistic contexts as well. The underlying assumption is that a learner's grammatical

accuracy varies due to linguistic context because, if a learner has a number of different variants for the same form the learner might attach some of the variants to different linguistic contexts. Thus in order to encourage the subjects to use the same verb in different linguistic contexts it is important to place the same verb in as many varied linguistic contexts as possible in the stimulus text. The placement of the same verb in different linguistic contexts is easily illustrated by the following example taken from the stimulus text.

(1) Before entering school we visit a grocery shop to buy some buns and coca cola.

(2) We watch people passing and visit some shops after school.

In the first example, **visit** is immediately preceded by **we** but in (2) **visit** is part of a second independent clause so the verb **visit** is said to belong to two different linguistic contexts in the above sentence. For example, when a verb occurs in two different contexts, it is counted twice. Consequently, a verb form is counted as many times as it appears in different linguistic contexts.

5.3.2 Story Recording

The story is recorded before the experiment. The person whose voice is recorded is a Shona speaker of English. Most of the people who have previously taught the subjects are Shona speakers of English, so it is assumed the subjects are familiar with the accent of the reader of the story who is a Shona speaker

of English himself. The story is read slowly to control for unintelligibility which might arise if the story is read too quickly.

5.3.2.1 Instructions and Task Administration

The task is administered to each subject individually. Before listening to the story the subjects are simply told to listen carefully to the story because they are going to be asked questions after a second replay of the story. The subjects are, however, not told the nature of the questions before listening to the story. After the second replay each subject is told that they have to listen carefully to the following instructions.

> "John the elder brother in the story has just passed his primary school leaving examinations and is now attending a boarding school outside the city of Harare. Peter, the younger bother, however still attends the same school, but what is more important is that in spite of the absence of John his elder brother, Peter has not changed his daily routine. Now you should tell me as much as you can remember what Peter does every school day. You should concentrate on trying to recall as much information as you can and not on your grammatical accuracy. The aim is to assess how much information you can recall in your TL and not how grammatically accurate you are."

The exercise is therefore presented as if it is a test in memory and not on grammatical accuracy. The aim of the instructions is to divert the subjects' attention away from linguistic form towards content and then to subsequently assess how accurate the subjects are grammatically when they are not paying attention to linguistic form.

The instructions are given in Shona because the subjects

and the researcher share a common MT and some of the subjects have such a low proficiency in English that it is doubtful whether they are able to fully understand the instructions, if they are administered in the TL. Although the instructions are in Shona, it is emphasised that the responses should **invariably** be in English. The subjects are encouraged to recall the story as **quickly** as possible. In order to facilitate the production of the 3rd person singular the subjects are encouraged to begin their recall with the sentence frame; "Every day Peter ..." The sentence frame is projected on a screen using an overhead projector.

Besides the sentence frame verbal cues are also projected on the screen. The verbal cues consist of the major events which take place in the story for example, what the two brothers do during lunch hour. Psycholinguistically, the verbal cues provide the subjects with information around which they can organise their recall. The verbal cues therefore act as some form of schema to facilitate the recall of the text.

The need to use verbal cues emerged during the piloting of the task. It became apparent during the piloting of the tasks that the oral recall task was proving a bit too difficult particularly for the elementary subjects. During the main study lexical prompts are supplied to all elementary subjects and subjects from other levels who seem to be experiencing problems with the lexical contents of the story. This is done for two main reasons. First, the researcher is not interested in the communication strategies the subjects use in an attempt to compensate for limitations in their IL. Faerch and Kasper (1984) contain a number of interesting studies into the use of

communication strategies by second language learners to compensate for problems with the lexicon but this study is not conceptualised within a framework of communication strategies. The second reason for supplying the subjects with verbal cues is to attempt to make sure that the amount of data produced by the subjects at different levels of proficiency is comparable.

Elementary learners in the main study clearly recall more information when supplied with lexical prompts than other elementary learners did in the pilot study without prompts, but still they do not produce quantitatively as much data as either the intermediate or the advanced subjects.

5.3.3 Planned Writing

In an attempt to elicit what the researcher regards as planned discourse the same subjects are asked to produce a written version of the same story which they have produced orally. The written task is administered immediately after the oral task, thus it can be assumed that the subjects are still familiar with the story. Not only is it important on the one hand, that the interval between the oral and the written versions should be short enough for the subjects to remember what they have done in the oral production, but the interval should also not be too long for the learners to have moved from one stage of IL development to another because ILs are in a constant state of evolution because of their inherent instability. The subjects are encouraged to spend as much time as they wish on the written task. It is assumed that the absence of time pressure and their familiarity with the task aids them in their planning. The subjects are also encouraged to produce more than one written

version and then to indicate the order in which the versions are written.

5.3.4 Acceptability Judgements

It is useful to think of sentences as either differing in terms of their degrees of acceptability with some sentences being more acceptable than others or the same sentence being acceptable in varying degrees to different informants. Acceptability can therefore be seen as expressing the relations between sentences or relations between the judgements of informants (Nickel 1973).[1] If acceptability judgements can refer to the relations between sentences, one possible way of investigating this relationship between sentences is by using a ranking scale, in which sentences are ranked relative to each other in terms of their degrees of acceptability.

Another possible way of investigating the degree of acceptability of sentences is by using a scale which distinguishes between different degrees of acceptability (i.e rating) rather than using a two-point scale which only distinguishes between acceptable and non-acceptable sentences as seems to be the case in most studies Chaudron (1983) reviews.

A dichotomous scale in which a learner is asked to produce an absolute judgement ("correct vs incorrect") may be inappropriate because it overlooks the various degrees of acceptability between sentences and forces the subjects to either judge a sentence as either acceptable or unacceptable, when it is indeterminate in their IL grammar the judgement may therefore not be a true reflection of the linguistic status of the rule in the IL grammar of the learner. A five-point scale therefore looks

like an attractive option because it can capture different degrees of acceptability, hence does not force subjects to make absolute judgements, but there are also problems with a five-point scale or any scale for that matter which attempts to capture too many different degrees of acceptability.

First the subjects might avoid judgements by using middle categories only, thus a five-point scale might subsequently be operationalised as a three-point scale.

Second, the subjects might not be able to consistently distinguish the degrees of acceptability of the middle categories particularly when the subjects are to judge a large number of sentences. In other words, on the one hand, a dichotomous scale is inappropriate because it does not capture differing degrees of acceptability, at the same time a scale with too many distinctions is difficult to consistently apply. This raises problems of determining what the middle categories mean to the learner.

The compromise is therefore to use a three-point scale because it avoids forcing the subjects to make absolute judgements because it has a middle category which can also be consistently applied. The scale in this study has three categories correct, incorrect and not sure.

5.3.4.1 Construction and Administration of Acceptability Judgements

Twelve (12) sentences in all are constructed for the subjects to judge. The sentences fall broadly into two

categories: standard and non-standard. Sentences which are regarded as standard are those which are acceptable from a native speaker's point of view. Conversely, non-standard sentences are unacceptable from a native speaker's point of view. Non-standard sentences are unacceptable to a native speaker because they are malformed in either one of the following two ways. The first group of malformed sentences are those sentences which are characterised by an omission of the -s morpheme in linguistic contexts in which the morpheme is obligatory in the TL. In the second type of malformed sentences the morpheme, unlike in the first category of sentences, has been supplied where it is not obligatory. In other words, in the second category of malformed sentences the morpheme has been overgeneralised. Table 4 contains examples of both types of non-standard as well as standard sentences used in the AJ task

STANDARD SENTENCES	NON STANDARD SENTENCES	
	OMISSION	OVER SUPPLIANCE
John walks to school every day	*Peter usually enjoy watching football on Sundays	*The boys likes playing football on Sundays

Table 4: Presents examples of standard and non-standard suppliance of the 3rd person in the experimental sentences

Most of the non-standard sentences which are included in the AJ task have been produced by the subjects who took part in the

pilot study. The subjects who participated in the pilot study came from the same language background as the subjects in the main study. Therefore, the subjects in the main study are being asked to judge sentences similar to the ones which the subjects are expected to produce. This study is thus similar to the one by Gass (1983), with two main differences. First, Gass asks her subjects to judge the acceptability of the sentences which they have actually produced and not the ones which they are expected to produce as is the case in this study. Second, Gass is looking at a different grammatical area. She is looking at her subjects' judgements of their own use of relative pronouns.

5.3.4.2 Focus of Attention

After constructing the experimental sentences the specific linguistic area which is of interest is underlined. For example, in the following sentence **likes** is underlined : **Peter likes to ride his father's bicycle.** The structural area which is of interest is underlined in order to draw the subjects' attention towards the linguistic area which is of direct interest in the study. The aim is to reduce as much as possible the chances that the subjects' judgements are going to be influenced by factors which are irrelevant for the purposes of the investigation.

5.3.4.3 Instructions

The following is an English version of the instructions which are given to the subjects. The instructions are in the subjects' Mother Tongue.

Read the following sentences carefully. Pay particular attention to the underlined words in the sentence. Make up your mind, if the sentence is written in **good English, bad English** or if you think the sentence is somewhere between good and bad English.

Put a tick like this (✓) if you think the sentence is in good English. Put a cross like this (x) if you think the sentence is in bad English. Put a question mark like this (?) if you are not sure whether the sentence is good or bad English.

5.3.4.4 Practice Items

In order to familiarise the subjects with the requirements of the tasks, four practice sentences are used. The practice sentences involve a structure which is not immediately relevant to this study. The practice sentences involve the use of relative pronouns with two of the relative pronouns being correctly used and the other two being inaccurately used as the following sentences illustrate.

(1) The car **which** was parked here yesterday was stolen from South Africa.

(2) The girl **that** was driving a Renault is the daughter of the Minister of Finance.

(3)*The black cat **whose** was drinking milk belongs to my father.

(4)*The man **which** was here yesterday teaches English in Mufakose.

5.3.4.5 Administration of Acceptability Judgements in the Absence of Time

Each subject is supplied with a coding sheet on which to write their answers. The sheet contains three possible answers for each sentence, good, bad and not sure. The sentences are projected onto a screen. The subjects can, however, only see one sentence at a time because the rest of the sentences are covered. The amount of time allowed each subject in order to judge the acceptability of each sentence is carefully controlled using a stop watch. Elementary subjects are permitted a maximum of eight seconds to judge each sentence, but intermediate and advanced subjects are given five seconds only because it is presumed that they can read much faster than elementary learners, hence are given less time.

5.3.4.6 Acceptability Judgements in the Presence of Time

The experimental time is not restricted when the AJ are administered for the second time. Because of the limited amount of time and the large number of sentences which the subjects are judging when the task is first administered, it is assumed that the subjects can not remember the individual judgements which they had made on specific sentences when the task is first administered. Remembering the individual judgements is also made more difficult because the order in which the sentences are presented on the two occasions is different.

5.3.5 Metalingual Interviews

The metalingual interviews are held after the AJ tasks are

administered for the second time because the interview partly makes use of some of the results from the AJ tasks. For example, the first part of the metalingual interview consists of a sentence correction task in which the subjects are being asked to correct the sentences which they have identified as written in **bad English** when the AJs are administered for the second time. The researcher is not interested in seeing whether the subjects can identify the deviant linguistic area because the deviant area has already been underlined, but in seeing whether the subjects can explain the rules which have been violated. The interviews are held individually, recorded and subsequently transcribed.

5.3.6 Summary

A battery of different tasks is used to elicit the 3rd person singular. The subjects are asked to produce both an oral and a written version of the same task. Production data are complemented with intuitional data.

5.4 Prepositions

The main aim of this section is to describe the methods which are used to elicit the three prepositions which are investigated in this study : **to**, **at** and **from**. Broadly speaking two main types of data are elicited : production and intuitional data. Thus, in a sense the types of data which are elicited for prepositions are similar to the ones used for the 3rd person singular. However, there are some minor differences in the exact nature of the elicitation instruments which are used in either case.

5.4.1 Unplanned Speech

While an oral recall task is used to elicit the 3rd person singular, prepositions are elicited using a series of pictures and slides. Each subject is shown a total of eighteen (18) slides. There are at least 18 obligatory contexts (O/Cs) for the suppliance of the three prepositions. This produces at least six O/Cs for each of the three prepositions at, to and from. The slides for the prepositions are partly based on pictures taken from Murphy (1985). The slides depict basic spatial relations either between a human being and an inanimate object or an animal and an inanimate object. An example of the former is a picture of a farmer standing at a gate while an example of the latter is a picture of a cat at the bottom of the stairs. Although each picture or slide is originally intended to elicit a single preposition, it is possible with some of the pictures to elicit more than one of the required prepositions. For example, a picture showing a bus approaching a signpost written "Harare ten (10) kilometres" can be exploited to elicit not only to but from as well.

5.4.2 Instructions and Administration

The task is administered to each subject individually, tape recorded and transcribed. Each subject is shown one slide at a time and asked to describe the activities on the slide as quickly as possible giving the first reponse which comes into his mind. The subject is also encouraged to describe the picture in as much detail as possible. The researcher asks prompting questions which focusses on the particular part of the slide or picture which the researcher is concerned with. For example, in

the picture showing boys running to school while the other boys are already in the school premises, the subjects are asked questions focussing on those boys who are running to school and not on those already in the school premises.

Both of the questions are asked in the subjects' MT although the subjects are encouraged to respond in English. The aim of asking some of the questions in the subjects' MT is to overcome some of the linguistic difficulties of eliciting from when using a negative construction without supplying the requisite preposition.

The researcher is the interlocutor in all cases, because it is felt that if different interlocutors are used it makes it difficult to compare the performance of different subjects who might respond differently to different interlocutors (See Chapter Two Section 2.3.4 which comments on the effects of different addressees on the speech of second language learners).

As already stated in section 5.3.2 the instructions are given in Shona although the responses are invited in English. Besides giving an oral description of the pictures the subjects are invited to provide a written description of the pictures as well. Again the subjects are allowed to produce more than one written version of their descriptions as long as they indicate the order in which the versions are produced.

Acceptability Judgements on prepositions are elicited along similar lines to the judgements on the 3rd person singular. (See Section 5.3.4). Therefore it is not necessary to go into details concerning the use of intuitional data and the construction of AJ. The primary concern of the following section is to explain the rationale for the inclusion of particular types

of sentences in the AJ.

5.4.3 Test Sentences

A total of twenty (20) sentences are included as test items. The sentences broadly fall into two categories standard and non-standard. The non-standard sentences are also subdivided into two categories. The first category of non-standard sentences are predominantly made up of sentences in which the preposition at is used instead of to. The second category of malformed sentences consists of constructions in which obligatory prepositions are omitted. Table 5 shows examples of the two types of non-standard uses of prepositions included in the experimental sentences.

NON STANDARD SUBSTITUTION	OMISSION
I Went at Warren Park to see my brother.	We get our drinking water--- the river.
I was travelling at Marondera to see my mother.	I did not have money so I had to borrow some --- a friend

Table 5: Examples of two types of standard and non-standard uses of prepositions

The non-standard sentences in which at is incorrectly used instead of to are included because learners from diverse language backgrounds including Bantu languages generally tend to use static instead of dynamic prepositions when using English as a TL

because of the absence of dynamic prepositions in their MT (see Chapter Four). The sentences are consequently included because the subjects are expected to produce similar constructions. The aim is to investigate how the subjects respond to some features of their own IL. Sentences with omitted prepositions in O/Cs are included for an opposite reason. Shona learners are not expected to omit prepositions because prepositions are salient in their MT. Thus, sentences with missing prepositions are included to investigate how the subjects respond to structures which do not occur in their IL but occur in the IL of other learners (see Chapter Four).

5.4.4 Metalingual Interviews

The metalingual interviews for prepositions are conducted in a way which is basically similar to the interviews for the 3rd person singular as already indicated in section 5.3.5, consequently the procedures are only briefly outlined here. The interview is divided into two parts. The first part is a sentence correction exercise which is then subsequently followed by a second part in which the subjects are expected to describe the rule which has been violated. Again the interviews are recorded and transcribed.

5.4.5 Summary/Conclusion

The study focussed on a description of the elicitation of a very restricted set of prepositions. The prepositions where elicited using slides and pictures. The subjects where expected to produce both an oral and written version of the same task which corresponds with unplanned and planned discourse respectively.

FOOTNOTES

1/ Implied in the use of the term Acceptability Judgements is a distinction between Acceptability Judgements and Grammaticality Judgements. Newmeyer (1983) describes grammaticality as a "theoretical construct" because whether a sentence is grammatical or not depends on whether it can be generated by the grammar or not. Implied in the use of the term grammaticality is a **binary contrast** between grammatical and ungrammatical sentences.

Acceptability Jdgements, on the other hand, are not neceessarily binary because sentences may differ in terms of their degrees of acceptability.

CHAPTER SIX: MORPHOLOGICAL VARIABILITY

6.0 Introduction

This chapter sets out to empirically examine a series of hypotheses concerning the nature of interlanguage (IL) variability. The two main hypotheses which are examined are the effects of planning time and linguistic context on the grammatical knowledge of second language learners. The chapter does not only report on the subjects' knowledge, but the subjects' control of their knowledge as measured in terms of the number of syllables produced by each subject in sixty seconds. The chapter produces evidence which suggests that intermediate and advanced subjects may differ in their grammatical knowledge, but do not significantly differ in their control capabilities. It is suggested that development of grammatical accuracy is not directly correlated with gains in fluency.

6.1 Procedures of Data Analysis

In Chapter (Five) it is pointed out that the 3rd person singular is elicited using an oral recall task in which the subjects are expected to narrate the habitual activities of one of the participants in the story. The story creates obligatory contexts (O/Cs) for the production of the 3rd person singular because in order to describe the habitual activities of the participants in the stimulus story, the narrator is compelled to use the 3rd person singular. It is felt that the O/C measure is appropriate because the story creates O/Cs for the use of the 3rd person. All the other verb forms are therefore seen as "different ways of saying the same thing" (Labov 1969:72). In

other words, the other verb forms are **alternants** or **variants** of the 3rd person creating the so-called "envelope" of the 3rd person. The "envelope" of the 3rd person is expected to include at least three forms: **-s, zero** and the **-v+ing** forms. All these forms are alternants of the -s form because they are produced in response to the stimulus question: **"what does Peter do?"** a question requiring the use of the 3rd person in its response. The following are sentences with some examples of variants of the 3rd person:

(a) He **lives** in Belvedere.

(b) *If he has money left, he **board** a bus back home.

(c) *After school **ending** he boards a bus back home.

The **zero** and **V+ing** are scored as deviant including cases in which the -s morpheme has been supplied inappropriately i.e. overgeneralised. The counting of cases of overgeneralisation pre-empts criticisms that the analysis is liable to inflate the competence of the subjects, if the researcher does not take into account cases of inappropriate suppliance of the -s morpheme (Long and Sato 1984, Huebner 1984, Tarone 1987, 1989) (See Chapter Seven for a further discussion of the reasons for counting cases of overgeneralisation when calculating accuracy scores.) Each verb is therefore scored as either correct or deviant. But since repetitions are quite common in oral tasks, it is felt that when the same verb is repeated with an identical variant in the same clause it should be counted only once. However, in cases where the same verb is repeated with two different variants irrespective of whether the first variant is correct and the second deviant or vice versa both attempts are included in the scoring as is illustrated in the following

examples taken from the performance of one of the subjects in this study:

(a) After school Peter **waits waits** for the bus...

(b) .... and he **see, sees** clothes in the shops...

(c)* .... he **plays, play** football...

In the written task wrong spellings are disregarded.

The procedure for data analysis which is used in this study differs from the one which Ellis (1987) uses when studying the effects of planning time on the grammatical accuracy of L2 subjects in their use of structures which include the **regular/irregular past tense** forms. There is one major weakness in the procedure Ellis adopts in his study which consequently makes his empirical results suspect. The weakness has recently been pointed out by Preston (1989); he argues quite convincingly:

"....he (Ellis) counted only the first occurrence of each verb unless the first instance of it was deviant and the second correct. In this case it was counted twice. Therefore, if there were fourteen occurrences of **ride** +past as **rided**, they would not have been counted at all. Worse, if the verb **walk** occurred twelve times, the first time wrong and the remaining eleven correct, the second correct occurrence would have provided only a weight of fifty percent on the entire score"(287)

What Preston is getting at is that in short Ellis analyses his data in such a way that subjects with a lower accuracy have a higher grammatical score while subjects with a higher accuracy level have a lower score.

In the light of Preston's criticism the grammatical accuracy of each subject in this study is calculated by simply working out the percentage of correct forms each subject produces in unplanned and planned discourse as is shown in the performance

of one intermediate subject. The data from the two types of discourse are kept separate.

Table 6 presents the number of correct forms produced by one subject as a percentage of the total no of forms produced in either planned or unplanned discourse.

	no of O/Cs	Correct forms	Score as a percentage
Unplanned	six (6)	two (2)	thirty three (33%)
planned	eight (8)	one (1)	twelve and half (12.5%)

Table 6: Accuracy scores of one subject in unplanned and planned discourse

Besides examining individual performance, the analysis also examines group performance. Group scores are calculated using the percentage scores of individuals and not their raw scores. This is because the amount of data which individuals produced varied. Thus, if the group scores are calculated on the basis of individual raw scores, the performance of the group will be influenced by those who produce lots of data. Quantitative methods of analysis are used in conjunction with qualitative approaches. The exact details of the approaches which are used are reported later in the chapter and depend to a degree on the type of data which are produced by each group of subjects.

6.2 Elementary Subjects

The twenty seven subjects (27) from the elementary level taking part in the task aimed at tapping the discourse at the unplanned end of the planning continuum produce a total of a hundred and twenty six (126) O/Cs, the number of contexts which individual subjects produce vary in range from a minimum of three (3) to a maximum of seven (7) with an average of five (5)

contexts per subject. (See Chapter Five for a description of how unplanned discourse is elicited). In planned discourse twenty (20) subjects participate producing a total of a hundred and thirty five (135) O/Cs. The number of contexts which the subjects produce range from five (5) to seven (7) with an average of six contexts each.

A predominant number of verbs produced on the two administrations of the tasks are uninflected. In other words, the dominant variant is the zero form. In unplanned discourse of the 126 verb forms which are produced there are only eleven (11) -s variants. In planned discourse out of the 135 verb tokens there are only ten (10) -s variants. This means of all the verb tokens produced in unplanned and planned discourse only 11% and 14% of the verb tokens are inflected accurately to express the 3rd person singular. The majority are zero forms with the exception of a few occurrences of "hybrid" forms in which irregular past tense verb forms are inflected producing verb forms such as **wents** and **gots**.

The occurrences of "hybrid" forms indicate that **went** and **got** are not seen as part of the verbs **go** and **get**. A similar phenomenon has also been reported in child language studies in which children do not treat verbs like **go** and **went** as part of the same verb (McDonough 1986). This implies that some of the meanings attached to words by children and second language learners do not necessarily always correspond to those of adult native speakers (NS) hence the tendency to inflect irregular past tense verb forms resulting in the production of hybrid forms which morphologically are part past tense and part simple present tense forms.

The two verbs which attract the -s variant most are the verbs **go** and **play**. This partially supports the hypothesis that there are some verbs which attract verbal inflection much earlier than others as Abraham (1984) shows when he convincingly demonstrates that inflections on verbs are not randomly distributed, but tend to be systematically spread across different verbs.

However, the hypothesis that verbs occur linked to only one variant is not fully supported. For example, the few verbs which occur with the -s form also occur with the zero form as well. This is consistent with what Ellis (1988) finds in the performance of his three learners J,R and T in a longitudinal study. The performance of his three learners J, R and T is characterised by an occurrence of both the -s and zero forms at each stage of interlanguage (IL) development.

The fact that verbs such as **go** and **play** attract both the **-s** and **zero** forms when other simple verbs such as **eat**, **come**, **run** etc attract the **zero** forms only can be explained by two factors. First, **go** and **play** are highly practised because they occur with a high degree of frequency in the textbooks which constitute the main source of TL input to the subjects. Second, the two verbs might also be perceived by the subjects to be of a high communicative value in a formal language learning environment.

However, what is striking is that a predominant number of the verbs are uninflected in both unplanned and planned discourse. This implies that at an elementary level language learners have a simple categorical rule for verbs which they call upon irrespective of whether the discourse is planned or not. In other words, the 3rd person rule is not sensitive to

manipulations of planning conditions. The rule involves usage of simple unmarked verb forms, for example, **run, buy** in all contexts irrespective of how the target language is used.

To suggest that the language of second language learners at an early stage of language learning is not sensitive to planning rests on the methodological assumption that the research does in actual fact succeed in tapping discourse types which fall at the opposite ends of the planning continiuum. The strength of this assumption is tested in section 6.6.4.1. However, even if it is assumed for the sake of argument that the two types of texts produced fall at the polar ends of the planning continuum, a closer examination of the data shows that there are other subsystems which are related to verbal inflection which show sensitivity to planning particularly pronominalisation. It is important, however, to stress that pronominalisation is not one of the areas the study sets out originally to investigate.

6.2.1 Pronominalisation

It is interesting to investigate the extent to which pronominal usage by elementary learners is sensitive to planning, because one of the original questions the study sets out to investigate is the degree to which the language of second language learners varies due to linguistic context. There is interest, therefore, in seeing whether the degree of accuracy of elementary learners is higher when the preceding subject is a pronoun and not a full noun phrase (NP).

When attempting to investigate the effects of pronouns and NPs on verbal inflection the researcher had made the implicit assumption that the subjects had acquired pronominalisation rules

which correspond with those of NS - an assumption which is suspect in the face of the data.

In the TL pronouns are introduced and nouns repeated to keep "track of the referents in the discourse" (Williams 1989:153). Arguably the use of pronominalisation renders the discourse more cohesive and economical. Pronouns at times are introduced and function as cohesive devices because they have an anaphoric relationship with the referent of the preceding NP. Native speakers do not only use pronouns to mark anaphoric referents, another fairly common way of marking relationship between referents is the use of zero anaphora which is a sub component of ellipsis. Usage of zero anaphora is controlled by two factors, one is pragmatic and the other is syntactic. Pragmatically, NS have the option of either using a pronoun or a zero anaphora in subject position when the referent is exophoric as the examples taken from Williams illustrate:

(a) He just walked into the cross fire. ∅ never knew what hit him

(b) (at a lecture) ∅ sure knows his staff

(Quirk 1985 in Williams 1989:154)

Zero anaphora is also used in parallel coordinate constructions when the subject NPs are coreferential and the clauses have corresponding structures. The rules of pronominalisation the elementary subjects use are to some extent different from those of NS of English which have just been outlined above.

The rules are different in a variety of ways. For example, the rules of marking relations between anaphoric referents operated by the subjects result in a production of very

few pronouns. Because of the presence of very few pronouns it becomes difficult to compare the effects of pronouns and NPs on verbal inflections.

The subjects use very few pronouns because they generally tend to repeat the full NP rather than use a pronoun to mark anaphora. For example:

(1) *Everyday Peter go to school. Peter live in Warren Park. Peter like eating buns....

(2) *Peter play football after school. Peter catch a bus for home.

The repetition of the full NP rather than the use of pronouns has been frequently reported in SLA literature (Tarone 1987, Williams). Repetition of full NPs can be described as an economical way of applying mental energy because the subject does not have to spend effort deciding whether to use other ways of expressing relations between referents. The subject simply repeats what he has already said before.

Another device of expressing relations between referents which is used by subjects in this study is the use of a zero grammatical subject. If repetition of a full NP is characterised by an overt marking of surface relations, then zero grammatical subjects involve a covert marking of surface relations.

The omission of a grammatical subject usually occurs when the full NP has been mentioned a number of times in preceding discourse. Because the referent has been mentioned it can be assumed the speaker thinks that the referent is recoverable. The omission is pragmatically motivated because it relies on the assumption made by the speaker that the hearer still retains the

information about the referents in his short term memory. The reliance on shared information between the speaker and hearer contributes to referent deletion and syntactic reduction a phenomena characteristic of unplanned discourse (Ochs 1979; Givón 1979). The following text provides an example of referent deletion in grammatical subject from one of the subjects in an oral narrative.

Everyday Peter go to school. Peter live in Belvedere. Ø buy buns.....

The omission of grammatical subjects among L2 learners is not only motivated by pragmatic factors, but is also facilitated by transfer. The omission of the grammatical subjects can be attributed to the influence of the L1 of the subjects. In Shona like in other Bantu languages the grammatical subject can be omitted when the person and number of the grammatical subject can be inferred from the inflection. (See section in 4.2.2 Chapter Four which deals with a Linguistic description of some parts of Shona).

Although omission of the subject pronouns can be partly explained on the basis of the role of the subjects' L1, the omission should not be interpreted as an activation of a pro-drop parameter. Because although Shona can have zero grammatical subjects it does not exhibit some of the syntactic properties of languages such as Italian and Spanish which are pro-drop languages.

Pro-drop languages have three closely related properties (White 1985). Pro-drop languages do not only have zero grammatical subjects but have two other additional syntactic properties as well. Pro-drop languages allow free Subject-verb

alternation in declarative sentences and show the **that trace effect.** Shona allows neither **free subject verb inversion** in declarative sentences nor the **that trace effect.** Thus omission of subjects in grammatical positions can not be satisfactorily explained from a Universal Grammar (UG) perspective. In UG all variation is developmental. It arises as a consequence of attempts to set or unset parameters. Variation in a UG perspective is seen as "a no man's land between parametric values - a mixture of the old and new systems" (Williams:159). The omission should therefore be rightly interpreted as an interaction of transfer and pragmatic factors.

Although the subjects elect either to omit the grammatical subject or at times to repeat it, there is a third way in which anaphoric referents are marked. On the few occurrences in which pronouns appear, there are tied to an adjacent NP.

For example,

(1) Peter he runs to school

The pronoun is usually coreferential with the preceding NP. Thus in the above example both **Peter** and the pronoun **he** refer to the same person. Williams describes this as an example of "pronominal copying" and distinguishes it from the phenomenon of "double subject" in which the first NP is the topic and the second NP is the comment on the topic. The following is an example of a "double subject" from Li and Thompson (1976: 468):

(1) That tree, the leaves are big.

Pronominal copies (PCs) are acceptable in Shona as is illustrated when the sentence below is literally translated into English.

Tukomana tutete twakaenda

The small boys (they) went away

(Ngara, 1982:42)

Thus, it can also be argued that PCs can be partially attributed to the subjects' L1. Although the occurrence of PCs can be attributed to the subjects' L1 it is still felt that it is necessary to identify and describe the functions which PCs are serving in the IL. One way of determining the functions of PCs is to see if they occur randomly across the texts. This means investigating whether zero subjects and PCs are used in complementary distribution or randomly. Pronominal copies occur in two clearly identifiable positions in the discourse. Seven out of twenty seven subjects begin their narratives with PCs, the rest use full NPs. Expressed differently the subjects use PCs in discourse opening moves. The preferred way of opening the discourse is to simply repeat the full NP. There is no instance of the subjects using zero anaphora when beginning their discourse. The following sentences provide an example of a PC in the text of one subject from the elementary group.

Every day Peter he played football with his friends.

It is interesting to observe that seven of the subjects open their discourse with PCs even though the subjects are invited to begin their narrative with a sentence frame with an NP and not a PC. The occurrence of PCs in the production of some of the subjects although interesting can not be said to be completely unexpected. It has been shown that when L2 learners are asked to repeat sentences they repeat the sentences in a way which is consistent with their IL grammars (White 1986). If NPs and PCs are used interchangeably at the beginning of the

narrative there is one position which is dominated by the latter.

Some of the subjects generally tend to shift between retelling the habitual activities of one of the participants to retelling the story verbatim by introducing the two participants in the stimulus story. When the subjects are reintroducing one of the participants the subjects use PCs as if to suggest that PCs are much more salient than full NPs when reintroducing a participant mentioned earlier on in the discourse. Expressed differently, PCs are given a privileged position when reactivating a previously mentioned referent(s) because they are not used interchangeably with full NPs as is the case when the subjects are introducing non-exophoric referents at the beginning of the narrative.

The privileged position of the PC is clear from the following text which is part of the narrative of one of the elementary subjects.

....Everyday Peter go to school by bus. Peter and John drop at the beer hall. Peter and John like buying food in the shop. Peter he drop off at the beer hall. Peter buy coca cola in the shops. Peter like football .

The use of PCs is not restricted to ILs only it seems to be characteristic of informal NS speech as well. Tarone (1987) does not star sentences beginning with PCs implying that she regards PCs as acceptable.

However, the presence of PCs in the IL of Shona learners of English can not be satisfactorily explained by suggesting that the subjects are exposed to informal NS input. It is pointed out in Chapter Three that the subjects had hardly had any

opportunities to come into contact with NS outside the classroom where it could be said that they were exposed to informal NS input.

The presence of PCs in their production is consequently attributed to the influence of the subjects' L1 and the special function of PCs in the narrative. Variation in the use of referential devices does not however result in variable accuracy in the use of verbal inflection in unplanned discourse.

6.2.2 Planned Discourse

In planned discourse the referents used by the subjects are not variable with the subjects preferring to repeat the full NP. The fact that the performance of the subjects shifts from variable use of referents to a categorical repetition of a full NP suggests that the subjects possess a number of different ways of expressing relations between NPs. In other words, their competence is heterogeneous as far as pronominalisation rules are concerned. The behaviour of the subjects in their use of pronominalisation rules lends empirical weight to Ellis', "variable competence model" (Ellis 1984, 1985, 1987, 1989).

The repetition of Full NPs does not result in variable use of verbal inflection either. Thus in a sense neither does the systematic variable use of anaphoric referents in unplanned discourse nor the categorical usage of full NPs in planned speech result in variable inflections.

6.2.3 Summary

As a way of summarising it can be suggested that there are some linguistic features which are highly sensitive to shifts in

planning although it is still doubtful whether the shifts are from an unplanned end of the continuum to the planned end. At the same time not all linguistic features respond to changes in planning. For elementary learners whether their L2 is going to be variable or not may ultimately depend on the linguistic feature in question much more than manipulations of planning time.

6.3 Intermediate Subjects

The aim of the following sections is to explore the extent to which planning conditions and linguistic contexts have an effect on grammatical accuracy in the performance of second language learners at an intermediate level of proficiency. The data are analysed following the procedures which are outlined in section 6.1. A t-test is run to compare the group mean scores in unplanned and planned discourse to see if the mean scores are significantly different.

Table 7 gives the means of the intermediate group in unplanned and planned discourse. The standard deviations in unplanned and planned discourse are also given. The linear correlation and the probability of the performance of the subjects being correlated in unplanned and planned discourse are also presented. The "probability of no correlation" simply measures the extent to which performance in unplanned and planned discourse can be said to be significantly correlated. The higher the linear correlation, the lower is the probability of no correlation. Thus, the linear correlation and "probability of no correlation" are inversely related. (See Chapter Seven for a similar explanation).

Two other measurements are also shown in Table 7: ie the t-test score and the probability of equal means. The two measurements are also related. The bigger the t-test score the lower is the probability that the means are equal. Conversely, the smaller the t-test score the higher is the probability of the two means being equal. Table 7 presents mean scores and standard deviations in unplanned and planned discourse.

N = 12

	UNPLANNED	PLANNED
Mean	62.5%	54.2
sd	46.2%	38.0%

Linear correlation coefficient=0.56
probability of no correlation =5.5%

t-test=0.46
probability of equal means =64.78%

Table 7 : Scores in unplanned and planned discourse

The results from the above table show that the mean from unplanned discourse is slightly higher than that in planned discourse. This runs contrary to what is expected. It was initially expected that the grammatical accuracy of the subjects should be significantly higher in planned discourse than in unplanned discourse. Although there are differences in the two discourse types, the differences are not significant at 0.05 significance level. The lack of differences in the performance of the subjects in the two tasks should not necessarily lead to a rejection of the planning hypothesis until a closer examination of the methodology which is used in eliciting unplanned discourse is undertaken in section 6.6.4.1.

The high standard deviations in both tasks reflect the lack of homogeneity in the group, and possibly indicates that the

samples are too small. It is interesting however to observe that the intermediate subjects are clearly less homogeneous than both elementary and advanced subjects. The heterogeneity of the group is perhaps not surprising because some of the studies which have reported on variation in the production of L2 learners have used learners at an intermediate level of proficiency notably the Ellis (1987) study.

6.3.1 The Effects of Linguistic Contexts

After having analysed the performance of the intermediate subjects at a global or more discourse level an attempt is now made to see if micro or "lower order" factors such as linguistic context are powerful determinants of variability for the intermediate group. In order to investigate the effects of different linguistic contexts on IL behaviour the initial attempt to compare the influence pronouns and NPs have on verbal inflection is abandoned for three main reasons.

First, the intermediate group produces more pronouns than NPs. Second, the few NPs occur at the beginning of the narrative when the subjects sound nervous, so it is felt that other than comparing the effects of different linguistic contexts other variables such as the emotional state of the subjects have intervened which are likely to make the results of a direct comparison of the effects of NPs and pronouns suspect. Eisenstein and Starbuck (1989) Lantolf and Ahmed (1989) have shown that emotional investment in the topic results in lower morphological accuracy. The subjects are less accurate when discussing a topic which is of high interest to them than one which is of low interest. In this study, if the effects of NPs and pronouns on verbal inflection are compared the comparison

results in assessing the effects of nervousness on NPs with the effects of "reduced nervousness" on pronouns and verbal inflection.

The third reason is perhaps the most important factor which explains why it is not appropriate to compare the effects of NPs and pronouns on verbal inflection.

The position which a linguistic item occupies in a text is likely to have an impact on whether the verb after the grammatical subject is inflected or not or indeed how frequently it is inflected. For example, an NP in a segment in discourse initial position may have a more powerful effect when attracting verbal inflection, than if the same linguistic item occurs in medial and final discourse positions.

In this study the empirical results show that most NPs occur in discourse opening segments while pronouns are situated in medial and final discourse positions. A comparison of NPs and pronouns results in assessing the effects of NPs in discourse initial positions on verbal inflections with the effects of pronouns in discourse medial and final positions on verbal inflections. The comparison is thus abandoned because it does not involve a simple contrast between NPs and pronouns on verbal inflection as initially intended. A second independent variable of discourse position has intruded in the data.

Most studies which report on the effects of different linguistic contexts on verbal inflection notably the one by Ellis (1988) and Young (1988) do not say anything at all about whether the different linguistic contexts they compare are embedded in different discourse positions.

In the light of the above reasons the analysis is going to concentrate on the effects of different types of pronouns situated in comparable discourse positions on verbal inflection.

Two types of subject pronouns are identified and coded. In the **first type** the subject pronoun immediately precedes the verb, in the **second type** of pronoun, the pronoun in subject position is separated by an adverbial from the verb. Examples of the two types of pronouns in subject position in discourse medial positions are cited below.

(1) ***He usually go to the shops after school**

(2) **He goes to the shops after school**

Table 8 shows the distribution of **zero** and **-s** forms according to whether the pronoun subject immediately precedes the verb or the pronoun is separated by an adverbial in simple declarative sentences as indicated in the above examples,

	Pronoun subject + verb		Pronoun +adverbial +verb	
	-s	zero	-s	zero
Unplanned discourse	34(32.6%)	67(67.4%	1(25%)	5(75%)
Planned discourse	56(54%)	47(46%	2(11%)	16(89%)

Table 8: The overall suppliance of -s variants in frequencies and percentages in two types of pronominal contexts in unplanned and planned discourse.

An analysis of the data shows that the subjects are much more likely to use the **-s** variant when the pronoun subject immediately precedes the verb than when the verb is separated by an adverbial.

If it can be shown that a grammatical subject containing a pronoun only is less complex syntactically than a grammatical subject in which the NP contains a pronoun and an adverbial, then it can be argued that complex linguistic contexts are less likely to attract TL variants than less complex linguistic contexts.

6.3.1.1 Parallel Coordinate Constructions

In order to investigate the effects of linguistic complexity on the suppliance of TL variants a population of parallel coordinate constructions is selected in both unplanned and planned discourse but kept separate for the purposes of the analysis.

The population of coordinate constructions which is investigated is restricted to those sentences in which the conjunction is overtly marked and the grammatical subject is a pronoun for two reasons.

First, on those occasions in which the subjects do not use a zero anaphora the tendency is to use a pronoun. Secondly, an attempt is made to keep coordinate constructions in which the grammatical subject is a full NP separate from those in which the grammatical subject is a pronoun. Although this study is not able to compare the effects of preceding NPs and pronouns on grammatical accuracy, there is some evidence (although of a suspect nature for reasons already given) that NPs and pronouns have differential effects on inflection (Ellis:1988).

The following is an example of a coordinate construction from the data.

*Everyday he climbs a bus and he get off at a the bus stop near the beer hall (pub).

Table 9 shows the overall suppliance of -s variants in main and second clauses in parallel coordinate constructions, the scores are displayed in frequencies and percentages

Main Clauses

	(-s)	Zero
Unplanned	18 (49%)	19 (51%)
Planned	22 (56%)	17 (44%)

Second Clause

	(-s)	Zero
Unplanned	11 (30%)	26 (70%)
Planned	15 (38%)	24 (62%)

Table 9: Scores in frequencies and percentages of -s and zero forms in main and second clauses in two types of discourse

The above figures suggest that TL variants occur first in main clauses before spreading to other clauses in parallel coordinate constructions.

The spread of TL variants may be regulated by two factors. First, the amount of attention to speech which a learner is paying to linguistic forms may fluctuate during the process of production. A learner might not be able to pay as much attention to linguistic form in a second clause as he is able to pay in the first clause. The decline in the amount of attention which a learner is paying may partly explain why the level of grammatical accuracy in second clauses is lower than in first clauses in parallel coordinate constructions. The decline in the amount of attention being paid to linguistic form occurs because during the process of production the subjects are under constant pressure to attend to other aspects of the task such as situational appropriacy. The effects of these pressures are

felt during the production of long utterances, hence the decline in accuracy.

The analysis which has just been given rests on the assumption that contrary to Tarone (1979, 1982) the degree of attention a learner pays to speech does not only vary between styles but is likely to vary within each utterance depending on the linguistic complexity of the utterance.

A more linguistically motivated and less psycholinguistically biased reason can trace the decline in accuracy between clauses back to the general preference by the subjects to use zero anaphora instead of pronouns in parallel coordinate constructions. The following sentence provides an example of a zero anaphora in a second clause from the production of an intermediate subject.

(i) *Everyday he plays football and then Ø go home.

(ii) *He likes play football and after that he catches a bus for home.

Table 10 shows how the -s and zero variants are spread depending on whether the subjects use a zero anaphora or a pronoun in a second clause. The figures are presented in frequencies and percentages.

	Pronoun		Zero Anaphora	
Second clause	-s	zero	-s	zero
Unplanned	10(83%)	2(17%)	1(5%)	24(95%)
Planned	7(70%)	3(30%)	8(28%)	21(62%)

Table 10: The distribution of -s and zero forms in second cluases in unplanned and planned discourse.

Apparently, the subjects in this study use more -s variants in a second clause when there is a pronoun than when there is zero anaphora. The use of more TL variants when there is a pronoun in a second clause than when there is a zero anaphora is interesting. It is interesting because one would have expected the subjects to inflect the verb more when they are using zero anaphora because one of the popular reasons advanced for the absence of inflections when learners are using the 3rd person is the concept of redundancy. When the subjects are using a pronoun or an NP it is argued that they will not be motivated to inflect the verb because the 3rd person has already been marked. If this argument were true it would have been natural to expect the subjects to inflect the verb more when they use a zero anaphora because the morpheme is no longer redundant. The general preference by the subjects to use the zero morpheme when they use a zero anaphora suggests that the redundancy argument has to be turned on its head.

The hypothesis that L2 learners seek to reduce the redundancy of their Il is rejected in favour of one which argues that contrary to expectations L2 learners seek not to reduce redundancy but to increase it (See Chapter Four for the theoretical argument on redundancy).

The tendency to inflect the verb when using pronouns hence increasing redundancy in IL is attributed to the fact that the presence of a pronoun signals to the learner that the incoming verb has to be inflected. This signal is lost when the pronoun is omitted hence the tendency to use zero morphemes with zero subjects and -s forms with pronouns. This supports Martinet's (1962) functional hypothesis that zero forms trigger zero

inflections and pronouns trigger -s inflections.

6.3.2 Summary

The data from intermediate subjects strongly indicates that the performance of language learners at an intermediate level is sensitive to linguistic context. However, the linguistic contexts differ in the degree to which they attract the -s forms. There are more -s forms when the pronoun comes immediately before the verb than when it is separated from the verb by an adverb. The presence of a pronoun is also more favourable towards verbal inflection than the use of zero anaphora in second clauses in parallel co-ordinate constructions. The study of intermediate learners does not however provide conclusive evidence concerning the nature and effects of planning on variability.

6.3.3 Advanced Learners

In order to investigate the nature of morphological variation in the performance of the advanced subjects, two procedures are adopted. The first procedure is comparable to the one which is used with intermediate subjects i.e. a comparison of group means. The second procedure is however different because it involves an analysis of the production of those subjects whose performance is inconsistent with the rest of the group.

Of the eleven (N=11) subjects from the advanced level in the study, nine of the eleven subjects are categorically accurate in their use of the 3rd person irrespective of the amount of time they take to carry out the task. Their

categorical accuracy contrasts sharply with the **categorical inaccuracy** of the elementary subjects. Apparently, on the basis of their production one gets the impression that the rule has become determinate in their IL to such an extent that they can call upon the rule irrespective of the amount of time allowed to carry out the task or the nature of the linguistic context.

It is interesting to note that the advanced learners have attained such a high degree of accuracy in their production because the 3rd person is a **potential candidate** for fossilisation. Not only is it acquired late, but some learners do not seem to acquire it at all (Schumann 1978). Presumably the 3rd person is not acquired by learners who are learning the TL in a naturalistic environment as opposed to a classroom setting because for the former the rule is not a major meaning bearing element. In a classroom setting on the other hand, learners may be compelled to focus on linguistic forms irrespective of whether the forms are major meaning bearing elements or not. The sensitivity of the 3rd person to explicit instruction frustrates hopes that it is not going to appear in unplanned discourse.

However, the performance of two of the subjects who are not consistent with the rest of their group lends partial support to the hypothesis that the 3rd person is less likely to appear in unplanned discourse. But this variable regularity gives way to categorical accuracy in planned discourse as the accuracy scores show below. Table 11 shows the accuracy scores of two subjects in unplanned and planned discourse.

Subject	No	Unplan.	Plan
	60	60%	100%
	62	55%	100%

Table 11: Accuracy scores in unplanned and planned discourse of two advanced subjects

A closer examination of the performance of the two subjects brings to light two interesting phenomena. Although the two subjects are not categorically correct in unplanned discourse the deviant structures which they produce on each occasion are immediately corrected. The corrections are all self-initiated. This suggests that during the process of production the subjects are trying to edit and monitor what they are saying. The exact details of their self-initiated corrections and the potential role they play during psycholinguistic process of planning are discussed in section 6.6.4. In section 6.6.4 it is argued that the differences between the two learners may be partially attributed to their individual personal characteristics. Seliger (1980) would have referred to them as "correctors" as opposed to "planners".

6.3.4 Summary

Generally advanced subjects do not show much sensitivity to planning. The variability in the performance of two of the learners may be the outcome of personality factors.

6.4 Introduction to Results on Acceptability Judgements

The section on Acceptability Judgements (AJ) is divided into two main sections. The first section analyses the degree of consistency in the judgements made by learners at three

different levels of proficiency in two different experimental conditions in which the AJ are administered. The second part is linked with the previous sections on variability in IL production because it attempts to correlate the performance of the three groups with their performance in the AJ. The section concludes by examining the theoretical status and reliability of intuitional data as a source of information concerning the learners' grammar in the light of the low correlations between scores on grammatical accuracy and scores on AJ.

6.4.1 Analysis of Acceptability Judgements

The analysis will first consider correct judgements on all sentences administered in -/+ Time respectively. In the former the amount of time allowed for the AJ is restricted, while in the latter it is not. (See Chapter Five Section 5.3.4.1 for more details concerning the administration of AJ). The analysis examines the correct judgements made on grammatical (G) and ungrammatical (U) sentences by the three groups of subjects in -/+ Time respectively.

6.4.1.1 Correct Judgements on all Sentences

Table 12 presents the mean scores and standard deviations on correct judgements on all sentences for each group in-/+ Time. The table also presents the correlations and probabilities (of no correlation) between correct judgements in -/+ Time. As indicated earlier a small value of probability of no correlation indicates a high probability of correlation if correlation is positive or a high probability of anticorrelation if correlation is negative.

At the bottom of the table are results of the one-way

Anovas run to compare the differences between the means of the three groups in -/+ Time. The results are presented in terms of F(ratios) and the probability that the means of the three groups are equal. More details of the results can be seen in the appendix.

Level	-Time	+Time	Correlation between -/+ Time	Prob. (No Correlation %)
	42.26%	32.74%	-0.21	47.4%
(i)N=14	$\bar{X}$ 5.47	$\bar{X}$3.93		
	sd 1.9	sd 1.61		
	45.56%	57.78%	0.52	0.4%
(ii)N=30	X5.47	$\bar{X}$6.93		
	sd 1.61	sd 2.25		
	68.94%	91.67%	0.47	13.4%
(iii)N=11	$\bar{X}$8.27	$\bar{X}$11.11%		
	sd 1.96	sd 1.48		
	F Ratio = 9.02	F ratio = 20.51		
	Prob. = 0.1%	Prob. = 0.00%		

Table 12: Mean scores and standard deviations on correct judgements on all sentences in -/+ time.

Two one-way Anovas are run which show that the groups are not significantly different from each other as a whole at a< 0.05% level in -Time while the groups are significantly different from each other in +Time.

A more fine tuned analysis of the performance of the groups in -Time shows that, on the one hand, there are no significant differences between the elementary and intermediate, groups while at the same time the differences between the intermediate and advanced groups are significant.

A t-test applied to the mean scores of the intermediate

and advanced learners indicates that there are substantial differences between the means of the two groups of subjects. The t-value for 39 d.f at ‹0.05% is 1.684. The t-value which is obtained for the group means is 4.26. The differences are even significant at ‹0.01 because the critical value at 0.01 is 2.423. The null hypothesis that there are no differences between the intermediate and advanced groups is therefore rejected.

The fact that the difference between intermediate and advanced subjects is greater than the difference between the intermediate and elementary group reflects possible problems with the sampling procedures used in this study. The advanced subjects in this study might not be "homogeneous" with the elementary and intermediate subjects. The advanced group as stated in Chapter Four are university students and may possible constitute a "special" population. The lack of homogeneity between the three groups partially relfects on the nature of the educational system in Zimbabwe. It appears that there is a dramatic improvement in the language proficiency of the students in years intervening between early secondary and university entry.

Although the advanced group is not "homogeneous" with other groups the fact that the group is more accurate in its judgements than the other two groups is not totally unexpected. It can be argued that the ability to make accurate judgements is a function of increased proficiency.

However, the patterns of language behaviour of the three groups in + Time are different. For example, the mean scores for the elementary subjects falls from 42.26% to 32.74%. When the performance of the group in -/+ Time are correlated, the

results produce a negative correlation of (r=-0.21).

Interestingly, although the performance of the elementary group in -/+ Time are negatively correlated the elementary group seems to be more accurate in its judgements in -Time when it is expected to give immediate responses than when it is expected to think about its judgements in +Time. The availability of more time to reflect on its judgements increases the unreliability of its judgements. Not all groups are affected by the availability of more time in a similar way.

Time affects accuracy in the judgements of the intermediate group in a different way from the way it affects the judgements of the elementary group. The mean accuracy score of the intermediate group increases from 45.56% in -Time to 57.78% in +Time. This implies that the availability of more time to judge is beneficial to the intermediate group in contrast with the elementary group.

From the results of the correlation between the judgements of the intermediate group in -/+ Time, it appears the group is much more stable than the elementary and indeed even the advanced group. The correlation of the intermediate group in -/+Time is 0.52. The correlation is higher than the correlations of the elementary and advanced groups which are -0.21 and 0.47 respectively.

The **comparative stability** of the intermediate group at a **judgemental level** contrasts sharply with its **variability** in **production.**

The stability of the intermediate subjects indicates that the group is relying to a large degree on the same mechanism for their judgements in -/+ Time unlike the advanced subjects.

Possibly the intermediate subjects rely on their intuitive knowledge irrespective of the amount of time they are allowed to carry out the task.

The advanced subjects do seem to been using different strategies in their AJ in -/+ Time. Their performance shows a marked improvement over their earlier performance in -Time. Indeed it can be said the subjects are close to being categorically accurate in +Time with a score of 91.67% as opposed to 68.94% in -Time. The differences in their language behaviour is evident in that their correlation is lower than that of the intermediate group (i.e. $r = 0.47$) and a high probability of 13.4% that their performance in -/+ Time are not correlated.

The greater accuracy in the AJ of the advanced subjects arises from the fact that in -Time the subjects do not have time to access their metalingual knowledge, so they have to rely on their intuitive knowledge unlike in + Time when the availability of more time enables them to exploit their grammatical knowledge. The exploitation of metalingual knowledge boosts their scores on the AJ task when judging structures such as the 3rd person which are sensitive to conscious rule application (Preston 1989).

After analysing the performance of the groups on all the sentences an attempt is now made to examine the correct judgements made by the three groups on ungrammatical (U) and grammatical (G) sentences in -/+ Time.

6.4.1.2 Correct Judgements on Gramatical Sentences

Table 13 gives the mean scores and standard deviations of the performance of the three groups on their correct judgements in -/+Time. The results of the intergroup one-way Anovas are

also displayed at the bottom of the table.

	- Time	+ Time	Linear Correlation	Prob. of no Correlation
Level I	61.43% $\bar{X}$ 3.07 s.d 1.33	32.74% $\bar{X}$ 2.29 s.d 1.10	- 0.31	22.5%
Level II	44.67% $\bar{X}$ 2.23 s.d 1.23	70.67% $\bar{X}$ 3.53 s.d 1.38	- 0.36	5.0%
Level III	63.64% $\bar{X}$ 3.18 s.d 0.57	93.36 $\bar{X}$ 4.82 s.d 0.39	0.15	66.1%
	F Ratio = 4.97	F Ratio = 10.59		
	Prob. Equal Means= 2.0%	Prob. = 0.0%		

Table 13: Scores on correct judgements on grammatical sentences in -/+ Time.

On the basis of a series of one-way Anovas it appears the performance of the three groups are not significantly different on G sentences in - Time, but the difference between the groups are significant in +Time. It is likely the exploitation of metalingual knowledge by the advanced subjects in +Time and the decline in the fall of proficiency of the elementary group increases the differences between the three groups in +Time. For example, the scores of the three groups range from 45% to 64% in -Time. The range is widened in +Time from 33% to 97%. It is interesting to note that the accuracy score of the intermediate group is in actual fact lower than that of the elementary group in -Time. The intermediate group is 45% accurate while the elementary group is 61% accurate.

The scores of the intermediate group highlights problems of using group mean scores. The mean score of the intermediate

group is apparently affected greatly by extreme scores, for example, in the intermediate group there are a number of subjects who for "idiosyncratic" reasons think the experiment is a "trick" and therefore decide to score all sentences as either grammatical or ungrammatical. This clearly has an overall effect on the group mean score. More importantly it raises questions concerning the validity of some of the data. (See section 6.4.2 for further discussion of this issue).

The performance of the intermediate group however changes in +Time. The group mean is higher in +Time than in -Time. The score of the group improves from 45% to 71% in +Time.

The improvement of the group score consequently weakens the correlation of the group in -/+Time. The correlation between -/+Time for the intermediate group is (r=0.36). The correlation is not significant. The intermediate group is still more consistent in its judgements when contrasted with the elementary and advanced groups. The correlation of the elementary group in -/+Time is negative (r= -0.31) while that of the advanced group is weaker in comparison to that of the intermediate group i.e. 0.15 and 0.36 respectively.

6.4.1.3 Correct Judgements on Ungrammatical Sentences

Table 14 shows the scores of the three groups in -/+ Time on Ungrammatical Sentences only.

Level	- Time	+ Time
Level I	31.02%	23.47%
	$\bar{X}$ 2.17	$\bar{X}$ 1.64
	sd 2.00	sd 1.11
Level II	46.19%	48.57%
	$\bar{X}$ 3.23	$\bar{X}$ 3.40
	sd 1.63	sd 1.70
Level III	72.73%	88.31%
	$\bar{X}$ 5.09	$\bar{X}$ 6.18
	sd 1.63	sd 1.27
	F ratio = 0.1%	F ratio = 21.19%
	Prob. = 8.94%	Prob. = 0.0%

Table 14: Mean scores for correct judgements on grammatical sentences

The pattern which has been described in Section 6.4.1.2 on the correct judgements of the three groups on grammatical sentences in -/+ Time is again reproduced when the groups are judging U sentences. This means that the accuracy scores of the elementary group decline when judging U sentences in +Time. For instance, the accuracy score of the elementary group falls from 31% in -Time to 23% in +Time. The accuracy score of the intermediate group remains largely unchanged. The subjects are 46% accurate in -Time and 49% in +Time. The advanced group benefits from the availability of more time, their accuracy score rises from 73% in -Time to 88% in +Time.

The differences between the accuracy scores of the three groups are not significant in -Time, but are significant in +Time as can be seen from the results of a one-way intergroup Anova.

Table 15 brings together the mean scores of the three groups on Ungrammatical and Grammatical sentences.

	- Time		+ Time	
Level I	Ungrammatical	Grammatical	Ungrammatical	Grammatical
	31.02%	61.43%	23.47%	33%
Level II	Ungrammatical	Grammatical	Ungrammatical	Grammatical
	46.19%	70.67%	48.57%	44.67%
Level III	Ungrammatical	Grammatical	Ungrammatical	Grammatical
	72.73%	63.64%	88.31%	93.36%

Table 15: Scores on correct judgements on ungrammatical and grammatical sentences in -/+ Time.

The information in Table 15 can be found in Tables 13 and 14 respectively. The figures have been brought together for ease of reference. A comparison of the judgements of the groups in either - or + Time reveals interesting patterns. The elementary and intermediate groups are better at "spotting" G more than U sentences in -Time. The opposite seems to be the case for the advanced group which seems to be much better at judging U more than G sentences. But the differences between the judgements of the advanced groups on U and G sentences in -Time is not as big as that of the judgements between U and G sentences for the elementary and intermediate groups.

In +Time the elementary group is still better at judging G sentences than U sentences although clearly the difference between U and G sentences is not as big as in -Time.

The situation is different for the intermediate group which seems to be better at "spotting" U sentences than G

sentences in +Time. But the difference in the judgements on U and G sentences is very slight indeed, suggesting that the group has comparable abilities in "spotting" either U or G sentences in +Time as opposed to -Time when the group is better at accurately identifying G sentences more than U sentences.

The advanced group is better at identifying G sentences than U sentences in +Time, a pattern which runs contrary to the one in -Time when the group is better at U than G sentences. Again the differences between judgements on either U or G sentences in +Time is very small indeed; 88% and 93% respectively.

The most important finding which invites explanation is that for the elementary and intermediate groups the absence of error is much more salient than the presence of error in -Time. The ability to accurately identify G sentences than U sentences is also reported in Chapter Seven when the groups judge sentences with prepositions.

The ability to identify G sentences more than U sentences it is argued in Chapter Seven is part of a general psychological construct in which positive answers are said to be easier to give than negative answers.

It is also quite possible that when a learner's linguistic intuitions are still developing in spite of the indeterminacy of his intuitions the learner is still able to accurately identify G sentences without necessarily developing the capability to reject U sentences.

Expressed differently, the elementary and intermediate groups have a heightened awareness of that which is "right" without necessarily developing an awareness of that which is

"wrong" in their IL grammars. The imbalance between accurately identifying G and U sentences is however redressed as the subjects become more proficient and consequently become more balanced. The advanced subjects have equal abilities when it comes to judging either U or G sentences.

6.4.1.4 Undecided Judgements

Table 16 presents the number of undecided judgements made in -/+ Time on Grammatical and Ungrammatical sentences in terms of mean scores and percentages.

	GRAMMATICAL		UNGRAMMATICAL	
Undec. judg.	- Time	+ Time	- Time	+ Time
Level 1	10%	22.86%	20.41%	25.51%
	0.50	1.14	1.43	1.79
Level 2	10.67%	3.33%	8.57%	8.57%
	0.53	0.17	0.60	0.60
Level 3	0.00	0.00	0.00	0.00

Table 16: Undecided judgements on grammatical and ungrammatical sentences

On the whole there are fewer "undecided judgements" for the three groups than either correct or incorrect judgements on both U and G sentences. Even the elementary group which has more "unsures" than the other two groups still has fewer "unsures" than correct and incorrect judgements. The three groups generally prefer either of the two extreme categories to the middle one.

Sorace (1988) is inclined to explain the reluctance of the subjects to choose the middle category by arguing that the subjects are not afraid of committing themselves. In other words, the subjects are not "fence sitters". Sorace uses her broad classification of learners into two groups as one of her reasons for suggesting that a three-point rating scale is invalid in AJ. (See Chapter Four for a discussion of rating scales in AJ.) The three-point scale is invalid for Sorace because it fails to capture the indeterminacy which is concealed, when the subjects choose either of the two extreme categories i.e. correct or incorrect. If the subjects choose a middle category Sorace continues to argue the choice is liable to be misinterpreted as a reflection of indeterminacy in their IL when it might have arisen from a psychological fear of committment. She expresses her argument in the following way;

> "learners, in fact tend to fall into two major groups: those who choose the neutral category most of the time in order not to commit themselves to a definite judgement, and those who never choose it, as if they are reluctant to mark their uncertainty. A three-point rating scale is therefore not an adequate solution on psychological grounds" (1988:17)

It is difficult to either accept or reject Sorace's broad classification of L2 learners or examine how the psychological characteristics she cites correlate with performance on AJ, but there is one thing one can say with less uncertainty- the reluctance by subjects in this study to choose the middle category is not necessarily a fear of commitment and should therefore not be attributed to personality characteristics. It is the outcome of normative feelings fostered by a formal language learning environment with strong prescriptivist

tendencies in language teaching. The prescriptive tendencies, in formal classroom settings lead the subjects in this study to think that sentences are either correct or incorrect in a way which has very little to do with their personality characteristics.

However, the absence of any "unsures" in the judgements of advanced learners is not only due to the influence of the learning environment, but to other factors as well, such as the status of the rule in the learners' IL. Presumably, the rule has become determinate in the Il competence of the subjects. But even, if one accepts for the moment that the absence of "unsures" indicates the degree of determinacy of the rule in the IL competence of advanced learners, the converse does not necessarily hold. The presence of "unsures" in the judgements of elementary learners does not **unequivocally** suggest that the rule is indeterminate. This potentially self contradictory argument highlights the ambivalent position of an analysis of AJ. The ambivalence is examined further in the following section.

6.4.2 Discussion of Acceptability Judgements

The hypothesis that L2 subjects are inconsistent in their AJ is supported. The low correlations in the AJ made by the subjects in -/+ Time provide empirical support for the hypothesis. Some of the subjects particularly the elementary learners are so **variable** at a **judgemental level** that their behaviour is best described as **random.** Their judgements are in stark contrast with the relative homogeneity of their production. (See Section 6.2 on the performance of elementary learners in production).

In order to explain the extensive variation in the AJ of elementary learners it is important to first reexamine some of the assumptions which are made in the construction and administration of AJ (See Chapter Five for more details).

It is assumed that all the groups of language learners (the elementary language learners included) do have **intuitions** of **acceptability** and more importantly that they are able to express those intuitions through AJ. With hindsight the assumptions do look suspect. The assumptions are examined in the light of simple but important distinctions.

The need to know whether the subjects are able to express linguistic intuitions arises from the fact that AJ and intuitions are not the same thing. The distinction between the two has frequently been blurred. Sorace highlights the distinctions between the two by stressing that AJ are among other things simply linguistic statements about intuitions they are not necessarily the same thing as the intuitions because intuitions are usually operative at a deeper "level of awareness" and are not directly accessible (See also Seliger 1983 for a similar distinction).

It is a fairly well known fact that language learners may not have intuitions about all areas of the TL. A considerable number of studies concentrate on the indeterminacy which arises when the rule has not yet been represented in the learner's "transitional competence". Schachter, Tyson and Diffley (1976) Gass (1983) are good examples of such studies.

The extensive variation at a judgemental level in the performance of elementary learners might be due to the fact that they have not yet developed linguistic intuitions about the

specific linguistic area which is being investigated therefore the inconsistency in the AJ of elementary learners is more due to random selection and not to linguistic indeterminacy.

This is because in AJ the subjects are being forced to judge sentences which contain structures which are not yet represented in their IL grammars, and since they have no option but to judge sentences which contain structures which they do not know, they have no alternative except to resort to guessing.

Partial support for the argument that the extensive variation is not due to linguistic indeterminacy comes from the subjects own metalingual statements. Recall that the subjects are asked to explain the reasons why they have described particular sentences as either "correct" or "incorrect". When the subjects are asked to explain the basis on which they identify a particular sentence as either "correct" or "incorrect", most of the explanations which they give are semantic in nature and origin. The explanations have to do with the pragmatic plausibility of the construction and little, if anything, to do with the grammaticality of the sentences in spite of the fact that the linguistic area which the subjects are expected to focus on has been underlined in the experimental sentences.

This raises a problem concerning the validity of the data which are elicited through AJ. It appears that some of the subjects are judging some of the sentences on a criterion which has little, if anything at all, to do with the intention and aims of the research. This may suggest that not only are the judgements unreliable, but they are not extremely valid as well.

Methodologically, it is argued that in order to gain

insight into young learners' developing competence it may be appropriate to analyse a corpus of utterances which the learners produce and not to depend primarily on data elicited through Acceptability Judgements.

6.4.2.1 Correlations between Acceptability Judgements and Production

One way in which the use of AJ has been validated is through the high correlation between the degree of consistency in AJ and performance. Chaudron (1983) taking stock of research on metalingual judgements concludes:

> "....metalinguistic judgements in NS and NNs tend to be validated by other measures of performance. With NS speaker studies, validation was very clear in correlations between judgements and performance measures.....with L2 studies it was most evident in NNS consistency in judgement and production..." (1983:371)

The correlation between the AJ and production of the intermediate subjects is low. When the scores of the subjects in -Time are correlated with the subjects' performance in unplanned discourse, the results produce a correlation of only ($r= 0.15$). The correlation is not significant.

The correlation of the intermediate group in planned discourse with their AJ in + Time is again low. The linear correlation is negative $r=(-0.15)$. The correlation is not significant. The null hypothesis that there are no difference between AJs and production has to be rejected. The extensive variation between the AJ and production is puzzling because other studies do not show such a low correlation. Greidamus and Van Der linden (1987) obtain a fairly high correlation between the grammaticality judgements and production of their subjects. The

low correlation in this study may be due to the nature of the linguistic structure which has been chosen. Unproductive linguistic structures such as the 3rd person singular may result in a sizeable degree of variation between AJs and production.

The correlation between production and AJs is much higher for the advanced group particularly between the judgements made in +Time and production. The correlation between AJs in +Time and production is (r=0.92). The correlation between AJs in -Time and production is a bit lower, it is (r=0.69). The high correlation between +Time and production is expected because in +Time the advanced subjects are almost categorically accurate in their AJ while in production the subjects are highly accurate.

The correlation between -Time and production is a bit lower because the subjects are less accurate in their AJ in -Time than they are in +Time. If AJs can be validated on the basis of production then the high correlation for the advanced group provides the necessary validation.

But at the same time the fact that the advanced subjects are categorically accurate in their performance and variable in their judgements, may lead one to accept Snow and Meijer's (1976) observation concerning the secondary nature of language intuitions. Presumably, the competence that underlies intuitions about linguistic forms lags behind in its development to the competence that underlies the ability to use language in speech and production because the advanced subjects are less accurate in their AJs than in their production. In the light of this, it is appropriate to conclude this section with a quotation from Snow and Meijer concerning the secondary nature of linguistic intuitions.

> "Producing syntactic intuitions may be a skill that must be learnt and refined independently although of course not entirely detached from the skills of speaking and understanding (173).

6.5 Control Variability

The previous sections have addressed the question of the nature of the grammatical knowledge of L2 learners which is measured in terms of grammatical accuracy in production tasks and consistency of language learner judgements in AJ. The intention of the following section is to outline procedures for measuring learners' control of their knowledge. The assessment is based on an analysis of "temporal variables" such as speaking/articulation rate, self-initiated corrections etc. Evidence will be provided which strongly lends support to the claim that "temporal variables" are reliable indicators for the segmentation of the stream of utterance into units that underly the process of verbal planning." (Raupach 1980:10).

6.5.1 Measurements of Control Variability

A number of different "temporal variables" are used to measure the ability of the subjects to control their knowledge. The "temporal variables" are divided into two main subsections primary and secondary. The division of the variables into primary and secondary is mainly based on Grosjean (1980). Primary variables are always present in speech output, unlike secondary variables whose presence is not necessarily always required in speech. The categories are not mutually exclusive as Grosjean points out because pauses can belong to either category. The distinction between primary and secondary

variables is useful because the analysis focusses mainly on primary variables.

Primary variables are speaking/articulation rate and pause time ratios. **Secondary variables** are self corrections, repeats, syllable lengthening or drawls, filled pause such as /ah/uhm/ etc. The procedures outlined below for measuring "temporal variables" are the ones which Towell (1987) used recently although the method he uses finally goes back to the pioneering work of Grosjean and Deschamps (1968).

6.5.1.1 Speaking Rate

The rate of speech is expressed in terms of the number of syllables each subject produces in sixty seconds. The speech rate is calculated by dividing the total amount of time spent speaking including the length of the pauses. The results are multiplied by sixty to get the rate of speech. The speech rate is important because it gives an analyst insight into the amount of time spent formulating speech.

6.5.1.2 Articulation Rate

The rate of articulation is calculated by simply subtracting the total amount of time spent pausing from the speech rate. The articulation rate is used as a measurement of the rate at which speech is delivered. The articulation rate is an indirect measurement of the degree of speech automatisation (Faerch 1984). It is assumed that the subject's rate of articulation has an effect on the subject's grammatical accuracy. For instance, it is expected that a subject with a higher rate of speech delivery would be less accurate than one with a slower

rate of delivery.

The analysis intends to show that not only is the grammatical accuracy of an individual subject affected by his rate of articulation, but that the rate of articulation is also in turn affected by a number of factors; the nature of the task and whether the subject is using his L1 or L2. A subject who is retelling the story verbatim is expected to have a higher rate of articulation than one who is attempting to retell the story in his own words.

6.5.1.3 Pause Time Ratio

The pause time ratio is the percentage of the time spent speaking as a proportion of the whole. Pauses are all silences or voiceless sequences between speech as measured on a pen recorder. The pause time ratio is calculated because it is important for both theoretical and methodological reasons.

Theoretically, pauses are taken as good indicators of underlying speech planning. However, pauses can reflect other operations as well such as **breathing, marking grammatical boundaries, emphatic stress** etc. It proved futile to isolate the function of individual pauses because each pause may be used for a number of different operations simultaneously some of which may have psycholinguistic functions others may have functions which are not of direct interest to a psycholinguist. Grosjean (1980) points out that a subject may use a pause not only to plan but to breathe as well. For example, a pause which occurs at a lexical selection point may not only be used to select the next content word but to breathe as well. (See also Goldman-Eisler (1968); Fathman (1980); Faerch (1984), for a similar argument).

If pauses among other functions reflect the nature of planning, then methodologically it is felt that calculating pause time ratios for individual subjects provides some insight into the **degree of plannedness** of speech. For example, the speech of a subject with a high pause time ratio may reflect a high degree of plannedness than the speech of a subject with a low pause time ratio. Methodologically, pause time ratios are calculated because it is felt they can provide a more firm basis on which planning is defined and experimentally operationalised. (See Chapter Two on section 2.4 attempts to use the concept of planning).

6.5.1.4 Repetitions and Corrections

"Repeats are repetitions" as Faerch (1984:215) says in a nearly tautological fashion. The subjects are expected to repeat phenomena which differs in range from a single phoneme to a whole chunk of text. It is felt that it is of interest to identify what learners repeat because possibly learners may repeat an utterance after having considered its grammatical accuracy. In such a case repetitions are good indications of what learners find acceptable or unacceptable. For example, if a subject repeats an utterance or indeed part of an utterance unchanged, it is possible to infer that the subject has inspected the utterance and has found it acceptable, the subject then concludes that the utterance is not in need of any "repair". If the utterance is in need of repair then a new verbal planning process is initiated. It is assumed that the subjects not only inspect their utterances for their grammatical and lexical appropriacy, but for the accuracy of the information as well

particularly in an experimental situation in which the subjects are retelling a story which has originally been told to them by the experimenter. The subjects feel that since they were initially told the story by the researcher they should try to be as accurate as they can because the analyst knows more about the story than they do.

However, it is still possible that as far as grammatical errors are concerned the subjects may disregard some of their errors because of the pressures to be fluent in unplanned discourse.

6.5.2 Data Analysis

In the process of analysing the IL performance of the subjects, it was felt that much more insight into the nature of planning would be gained, if the same subject's performance in his IL is compared with his performance in his L1. The distribution of some temporal variables such as syllable lengthening is better understood if the same subject's performance on the same linguistic task is compared with his performance in his IL. In the light of this argument a total of twelve subjects (n=12) six subjects each from elementary and intermediate levels are randomly selected, so that they carry out the same task in both their L1 and L2. The supplementary data constitutes the main data for the analysis into control variability. Although the university students do not carry out the task in Shona (their LI) the results of their performance on the same task in English [illegible] included. The following sections present the results of an analysis of the speaking and articulation rates of the subjects' in their L1 and L2.i.e Shona

and English.

6.5.2.1 Speaking Rates

Table 17 presents the figures of the speaking rates of the three groups of subjects in terms of the number of syllables produced in sixty seconds.

	L1		L2		English NS norms
	mean	s.d	mean	s.d	180
Elemen.	93.24	14.4	64.86	5.4	
Intermed.	236.1	14.61	135.5	13.9	
Advanced.	.....	.....	137.5	37.8	

Table 17: Speaking rate scores.

As pointed out earlier there is no group mean score for the advanced subjects because there is no data on their performance on the Shona task.

The difference in the speaking rates of the elementary subjects in their L1 and L2 are significant not only at <0.05 confidence level, but at <0.005 level as well. The t-value at five degrees of freedom at <0.05 confidence level is 2.015 and at <0.005 with the same degrees of freedom, the t-value is 4.032. The obtained t- value for the differences between the mean speaking rates of the elementary group in their L1 and L2 is much higher. The t-value is 38.39. The null hypothesis that there is no difference between the performance of the group in their L1 and L2 is consequently rejected.

The differences in the mean scores for the intermediate subjects in their L1 and L2 is also significant at <0.005. The obtained t-value is 44.28. Again the null hypothesis is rejected.

The results are not surprising because it is expected that learners should have a slower rate of delivery in their L2 than in their L1 if the same task is held constant. But the high standard deviation in both the performance of the elementary and intermediate groups in both Shona and English suggests that the use of "temporal variables" is extremely sensitive to individual characteristics of each subject. Raupach (1980) reports that the speaking rates of his subjects who are native speakers of either French or German is sensitive to individual differences of the subjects as well.

Significant differences are also found between the mean scores of the elementary and intermediate subjects in their speaking rates in either Shona or English. The differences between the mean scores for the elementary and intermediate subjects in Shona are significant at 0.005 with the obtained t-critical value of 14.8. The elementary subjects are younger than the intermediate subjects, so the differences in speaking rates in the Shona task can be attributed to differences in age. Other studies also find significant differences between the speaking rates of individual subjects due to differences in age. Kowal, O'Connel, O'Brien and Bryant (1975) hypothesise that some temporal variables can detect age differences within a range as small as two years. In this study there is a minimum of at least three years difference between the oldest subject in the elementary group and the youngest subject in the intermediate group. There are also dramatic differences between the two groups in their use of filled and unfilled pauses.

The difference between the means of the elementary and intermediate groups in their English performance is 11.57. The

difference is significant with 10 d.f at 0.05 confidence level. With 10 d.f the t-critical value is 1.812. The t-value which is obtained is much higher so the null hypothesis is rejected again. The interpretation of the differences between the means is a difficult because on the one hand, the differences can be attributed to age differences as indicated already, but at the same time, the differences can also be attributed to differences in language proficiency because the elementary learners are not only younger but less proficient in English as well.

If differences between the elementary and intermediate subjects are due both to age and proficiency differences, it is interesting to observe that neither of these factors seems to have affected the advanced subjects whose speaking rates are comparable to those of the intermediate group in spite of the fact that the former group is much older and has a higher grammatical accuracy. The obtained differences between the mean scores of the intermediate and advanced groups is 0.12 and much lower than the t-critical value to reject the null hypothesis.

The comparability in the control capability of the two groups is also evident in the mean scores of the rates of articulation of the two groups as the following table shows:

Table 18 shows the rate of articulation in syllables per second of the three groups in Shona and English

	English		Shona	
level	mean	s.d	mean	s.d
Element.	3.14	0.8	5.36	1.24
Intermed.	4.3	0.62	8.50	1.34
Advanc.	4.8	2.54	...	

Table 18: The rates of articulation of each of the three groups expressed in syllables per second.

The differences in the mean scores between the intermediate and advanced is not significant. The absence of a significant difference between the intermediate and advanced groups can be explained by suggesting that the advanced group is carrying out what Towell (1987) calls "a balancing act." In the balancing act, the subjects may decide to spend more cognitive energy on grammatical accuracy rather than speech processing. The need to concentrate more on accuracy than speech processing implies that the university subjects have not yet reached a threshhold level in which they can both rapidly process language and still be highly accurate. In order to investigate this further it is necessary to analyse the rate of articulation of the two university subjects who are not categorically accurate in their performance in the oral task. The articulation rates for both of them are not only above the group mean, but for one of the subjects the articulation rate is even twice the mean score for the group. Their articulation rates are 5.02 and 10.03 syllables per second respectively.

6.5.2.2 Pause Time Ratios

The pause time ratios highlight another factor which is characteristic of the speech of the subjects. Not only have the subjects not reached a level where their use of linguistic structures is highly automatic, but they spend almost half of their speaking time silent. For example, the pause time ratios for the three groups are between 45% and 49% with the elementary subjects having the highest pause time ratio and the advanced group the lowest ratio.

The ratios can be taken to be a reflection of two processes. First, the ratios reflect the heavy cognitive demands placed on the subjects as they attempt to find the necessary linguistic means of expressing themselves. Second, the extensive silent pauses may be a typical planning language behaviour for the subjects. The subjects are more inclined to carefully plan their utterance before their production. As pointed out in section 6.3.4 Seliger (1980) divides language learners into two groups depending on their language behaviour. Learners who make extensive use of silent pauses are called "planners" as opposed to "correctors" who start executing their utterances before establishing the entire plan. It is interesting to notice that the pause time ratios of the elementary subjects in their L1 are almost the same as their pause time ratios in their L2. The pause time ratio for the elementary subjects is 48% while that of the intermediate group is 51%. This indicates that the planning characteristics which the subjects are exhibiting are to some degree not restricted to their L2 but are typical of their L1 behaviour as well. The methodological implications of the pause time ratios are examined

in section 6.6.

6.5.2.3 Secondary Variables

As pointed out in section 6.5.1 some of the secondary variables which are examined are syllable lengthening, repetitions and self-initiated corrections. If pause time ratios conceal the nature of planning, it is now argued that secondary variables provide overt evidence of the planning process. One of the features which is characteristic of the planning processes of the three groups of learners irrespective of the proficiency level of the subjects, or whether the subjects are carrying out the task in their L1 or L2 is the process of syllable prolongation (drawls).

The tendency to lengthen syllables in Shona is partially explained by the fact Shona is an open syllable language, so the subjects feel free to prolong syllables when they are hesitating. The influence of the tendency to prolong syllables is carried over by the subjects from their L1 to their L2. The subjects tend to prolong syllables, particularly if the syllable ends in a vowel.

If the syllable does not end in a vowel the subjects insert a vowel after the English consonant.

For example: **kicks / kIksI / or / kIkIsI**

rides -/ridzI/or /ridIZI/

The insertion has implication on one of the hypotheses which is formulated in Chapter Three.

The hypothesis that the phonological shape of the syllable is a strong factor in determining suppliance of the **-s** morpheme is not supported. The hypothesis is based on the assumption

that the phonological variants of -s are ordered acquisitionally relative to each other. The phonological variants will be acquired in the following order. (i.e. /s/ before /z/ before Iz) (Heckler 1975).

The hypothesis is not supported because even among the elementary learners the first -s forms appear with verbs such as go and play which co-occur with the /z/ phonological variant.

The hypothesis that the phonological shape of the morpheme has an affect on grammatical accuracy rests on the assumption that the variants /s, Z, IZ/ are placed in final syllabic positions by second language learners, but this is not the case in the data analysed here. The possible effects of the phonological variants is neutralised by the process of epenthesis which produces vowels in final syllabic positions and not consonants as the examples just cited illustrate.

Ellis (1989) also reports that the phonological shape of the final syllable does not have an effect on grammatical accuracy in the suppliance of the -s morpheme. He attributes this to the high communicative value of words such as come, say and go.

In this study it has also been reported that verbs with a high communicative value are among the earliest to attract the -s forms, but the absence of the influence of phonological environments or grammatical accuracy should not be attributed to the communicative value of the word only, but should be seen as an interaction between the communicative value of the word and the process of epenthesis. A combination of these two factors overrides the possible effects of the phonological shape of the syllable on grammatical accuracy. After the introduction of a

vowel the syllable is lengthened as the following extract from one of the university students demonstrates.

AND uhm.....[... ....] before he:[..] goes to...

(Silent pauses are in brackets. Double : indicates syllable lengthening).

The tendency to prolong syllables has also been reported among French learners of English primarily because French is an open syllable language by O'Connel and Kowal (1972). Although the subjects lengthen syllables it appears the subjects have an intuitive idea of the allowed maximum syllable length. (Some form of phonological ruler). If the syllable has been prolonged beyond its permissible length the subjects introduce filled pauses. Thus, in a way filled pauses are playing a complementary role to syllable lengthening.

But elementary subjects do not use filled pauses either in their L1 or in their L2. The absence of filled pauses generally tends to make the pauses of elementary learners fairly long approximately 0.8 seconds. Their pauses are long because they have a repertoire of very few planning strategies.

Another frequently occurring planning strategy is the repetition of function words. The strategy occurs in both the L1 and L2 of the three groups of subjects. It is not a planning strategy which is confined to the intermediate and advanced groups only like the use of filled pauses. An example of filled pauses is illustrated in the following text.

Everyday Peter [...] he he he boards a bus and then then and then he he alights at at..
/Zuva ne zuva anokwira bhazi oenda ku oenda ku chikoro pa pa dhuze nene beer haro./

The underlined words are function words in the L1 of the subjects. The English text provides a close translation of the Shona sentence.

The repetition of function words looks like a time gaining device which provides the subject with opportunities to search for an an appropriate word. The repetition indicates that the subjects in both their L1 and L2 begin their utterances before fully establishing in detail the structure of the constituents.

But after the lexical word has been selected the subject reviews the appropriacy of the word either before the subject has fully expressed it or after it has been expressed. The assessment of the word before being fully realised, suggests that monitoring takes place concurrently with the execution of the plan. The monitoring of a structure during the process of production contrasts with an inspection of the appropriacy of a linguistic structure after the plan has been executed. The following texts provide examples of how a structure is abandoned before being fully realised and an example of an assessment of a linguistic structure after production. Both examples are taken from the speech of one intermediate subject.

	Original utterance	Repeats
(1)	and at lunch he has lunch	he eats lunch
(2)	he ali (alights)	he gets off at the bus stop

Although some of the repetitions imply that the subject is assessing the appropriacy of what he is saying the changes need not necessarily result in any increase in lexical appropriacy. For example, the change from **having lunch** to **eating** lunch may be motivated by a level of uncertainty concerning the appropriacy of the idiomatic expression after production.

In example (2) the subject abandons the word before fully producing it. The abandonment of a word before full realisation is a good example of how monitoring seems to take place concurrently with the execution of the plan or even before the execution of the plan. This suggests that contrary to Krashen (1987) monitoring is divisible into three components:

pre-execution monitoring

monitoring concurrent with execution

post-execution monitoring

Krashen's conceptualisation does not take into account the possibility of monitoring taking place simultaneously with production because for him either the subject is monitoring or engaged in production and certainly not engaged in both processes at the same time.

A majority of the repeats and subsequent corrections are of a lexical and semantic nature rather than structural in kind. There are four types of repeats which occur.

(1) a grammatically incorrect word is substituted with a correct word.

(2) a grammatically correct word is replaced with an incorrect one.

(3) an incorrect word is replaced with an incorrect one.

(4) a correct word is replaced with an correct word.

Original utterance	correction
and he play ..	he plays
he sees	...see
he start...	go
but just watches	sees

The frequency of grammatical self corrections mainly by

the intermediate subjects is a good indicator of the conflicting rules in their IL competence. The self-corrections are an attempt to reconcile the conflicting hypotheses.

6.5.3 Summary

The study attempted to show that some "temporal variables" such as speaking and articulation rates depend to some degree on whether the subject is using his L1 or L2. But at the same time there are some "temporal variables" whose distribution is not restricted to the subject's L1 because they also occur in the subjects' L2. This is taken to mean that some of the planning characteristics of the subjects are better understood in the light of their performance in their L1. Measurement of some "temporal variables" particularly pause time ratios has methodological implications on data elicitation in SLA. The chapter is concluded by examining the implications.

6.5.4 Conclusion and Methodological Implications

It has been argued on a number of occasions throughout the thesis notably in Chapter (Five) that the intention of eliciting unplanned discourse is to try and get round the problem of the construct of "attention-to-speech". This does not imply that the construct is not useful, but simply that it is difficult to put to use because as a number of researchers have observed (cf Sato 1984, Beebe 1988 and many others) one cannot say for sure how much attention is being paid to form in a task by a learner or how much attention different tasks require. The construct of planning is an attractive one because attention is "...generally

a by-product of greater planning time..." (Preston 1989:23).

One way in which planning is measured is by using the pause time ratios, so a subject who has a high pause time ratio may be said to have attempted to produce more planned discourse than a subject with a low pause time ratio. If attention to form is a "by-product" of planning time, then the subjects in this study produce planned discourse and consequently pay more attention to form because they spend half their speaking time silent. Since the intention of the study is to elicit IL performance which is towards the unplanned end of the planning continuum, the oral performance is consequently not as unplanned as expected because of the high pause time ratios. The relatively high degree of plannedness of the oral narrative has implications concerning conclusions which can be drawn about the role of planning.

It is difficult to identify planning as a source of variability because the oral and written narratives are not distinctively different enough along the planning dimension to have an effect on the morphology of the subjects. Other hypotheses which are also abandoned include for example, the "interactionist hypothesis" which seeks to investigate the effects of different types of discourse organisation on the same linguistic context.

There are three main reasons which may have frustrated attempts to elicit unplanned discourse.

First, the presence of data recording instruments such as tape recorders and other data elicitation activities such as note taking may have convinced the subjects that they are under observation. The feeling that they are being observed and

recorded results in the subjects paying much more attention to what they are saying hence producing more planned discourse than is intended by the researcher. The study therefore fails to elicit unplanned discourse because it is confronted with the "Hawthorne Effects" or can not get round the "observer's paradox" (Labov 1972:113).

Secondly, the data are elicited by the researcher who in spite of attempts to be friendly is perceived by the subjects as having a status comparable to that of their teachers hence higher in status than the subjects themselves. Milroy (1980) has gone so far to suggest that status differences between investigator and the subjects are a much more powerful determinant of variation than the presence of recording equipment whose influence rapidly subsides after the initial nervousness has waned.

Finally, the "teacher status" which is accorded the researcher by the subjects consequently leads the subjects to be skeptical about the instrutions which they are given. The subjects are told that grammatical accuracy is unimportant for the task. Because the subjects are unwilling to follow the instructions they invest a lot of attention and cognitive energy on being accurate. This frustrates one of the aims of the study: the study is attempting to investigate the level of accuracy of L2 learners when they are focussing much more on content than form.

This chapter has therefore highlighted not only some of the factors which contribute towards rendering the IL system variable but more importantly it has shown the methodological problems of eliciting data based on the concept of planning.

CHAPTER SEVEN

VARIABILITY IN THE USE OF SPATIAL AND DIRECTIONAL PREPOSITIONS

7.0 INTRODUCTION

Chapter Six tries to empirically test claims about morphological variability, this chapter examines the scope of variability in the performance of L2 subjects on three spatial and directional prepositions i.e. at, to and from.

The chapter is divided into three main parts. The first part outlines procedures which are used in scoring the data. The second and final sections present results on production and AJ respectively. No attempt is made to measure the subjects' control capabilities using "temporal variables" as is the case in Chapter Six, because the data are elicited through a series of discrete pictures, this renders the use of "temporal variables" not meaningful for this sort of data because the discourse is not continuous enough to make an assessment of rate of speech an appropriate measurement.

7.1 PROCEDURES FOR DATA ANALYSIS

The following steps are adopted to tally the standard and non-standard uses of spatial and directional prepositions (preps). First, the number of obligatory contexts (O/Cs) when the suppliance of each of the three preps is obligatory in the target language (TL) are counted. For example, the sentence, A man is standing at the bus stop creates an O/C for the suppliance of the prep at. The O/Cs which are counted are only those in which a preposition is immediately followed by an NP complement. This excludes cases in which the prep is part of an infinitive

construction in sentences such as **Peter is running to catch a bus.**

The semantic functions of the three preps which are counted are those in which preps such as **at** are serving spatial and not temporal functions. An example of the temporal function of **at** is **Peter came back home at midnight.** **To** and **from** are counted in their directional sense in **I went to Harare** as opposed to when syntactically introducing indirect objects in sentences such as **Robert is giving the ball to John.**

Cases of self-correction are counted, if the subject does not repeat one preposition in the same prepositional phrase. The principles of either counting or discounting repetitions which are adopted here are similar to the ones used in Chapter Six (see section 6.1).

After counting the number of O/Cs in which each individual prep occurs the second step involves counting the number of contexts in which a prep is used inappropriately. For example, using **at** instead of **to** in ***The boy is running at school.** Each subject's score is a percentage of the number of times a prep is used appropriately as a proportion of the total number of O/Cs required for the preposition including the number of times the prep is used inappropriately. The formula for working out each individual subject's accuracy is as follows:

$$\frac{\text{correct suppliance in obligatory contexts} \times 100}{(\text{n obligatory contexts}) + (\text{n - non obligatory contexts with inappropriate suppliance})}$$

(Long and Sato 1984:262)

The scoring procedure is arguably appropriate for the sort of data in this study because it is likely to give a truer

reflection of the subject's competence because grammatical competence should involve not only supplying appropriate forms in O/Cs, but also should involve distinguishing between cases of correct suppliance from cases of inappropriate suppliance of preps as Long et al and Hatch (1983) and many others have pointed out.

Inappropriate suppliance of preps is likely to occur with elementary learners who because they possess very few TL forms are likely as a consequence to generalise those forms to inappropriate contexts. There is the well known case of Homer (Wagner-Gough 1978) who used the -ing form correctly as a gerund but also used it inappropriately as a general ending for various verb forms including imperatives. If Homer's accuracy is scored on the basis of suppliance in O/Cs only, the analyst gets an inaccurate reflection of Homer's competence.

The differences in accuracy scores between using a procedure which takes into account suppliance in O/Cs only and one which takes into account suppliance in O/Cs and inappropriate contexts as well can be easily illustrated when one analyses the performance of one of the subjects in this study.

No of obligatory contexts for the suppliance of at = 8

No of appropriate suppliance = 6

No of inappropriate suppliance = 4

Accuracy score taking into account suppliance in inappropriate contexts. = 50%

When the accuracy score for the same subject on the same data set is computed using the O/C measure below the accuracy score goes up to 75%. The formula for asessing accuracy using the O/C is stated below;

$$\frac{\text{n correct suppliance in obligatory contexts} \times 100}{\text{n obligatory contexts}}$$

(Adapted from Long et al:262)

Since the accuracy scoring procedures take into account suppliance in inappropriate contexts, the frequency with which different types of preps are used instead of the obligatory prep are also counted. The other preps or words used instead of the obligatory preps are taken as IL variants of the same preposition. After identifying the frequency with which other preps are used instead of the prep, which is obligatory from a TL perspective it then becomes possible to describe the variable ways in which either location or movement are expressed in IL. For instance, one of the intermediate subjects expresses movement to in the following two ways:

forms used to express movement to:

to > to	4/5	80%
~~ø~~ > to	1/5	20%

the > means that the prep to the left is used instead of the obligatory prep to the right. For example, the zero prep is used only once while the prep to is used four times. This suggests that both the zero prep and to are used to express movement in this subject's IL, although to is used more frequently than the zero form.

Although the above subject for example has two different ways of expressing movement usage of the two variants might be constrained by individual verbs preceding the prep. In order to investigate the effects of individual verbs on the selection of individual preps the probability with which each verb occurs with an individual preposition is calculated.

7.2 RESULTS

The first part of the data presentation and analysis seeks to explore the effects of speech and writing on the performance of the three groups of subjects on individual preps. The aim is to see if the performance of the subjects on the same prep will vary due to differences between speech and writing. The second aim of the analysis is to investigate whether the performance of the subjects will vary within the same mode depending on the type of preposition. In other words, the analysis aims at investigating the effects of **differences between modes** on individual preps and **differences between** preps **within** the **same mode.** The comparison is taken to be one between modes and not one between unplanned and planned discourse because as has been argued in Chapter Six section 6.6 the two types of discourse do not, on the one hand, differ significantly enough along the planning dimension to warrant a comparison between unplanned and planned discourse, but at the same time it seems justifiable to treat the performance of the subjects as one between speech and writing because the "unplanned" discourse is orally produced while the "planned" discourse is written.

7.2.1 The Effects of Writing/Speech Modality on Variability

Table 19 presents the mean scores and standard deviations (sds) on the performance of the three groups in percentages on three different preps in the two modes (ie speech and writing). The results of the elementary learners between and within the same mode are discussed first.

	Level I(N=17)		Level II(N=16)		Level III(N=15)	
Prep	ORAL	WRITTEN	ORAL	WRITTEN	ORAL	WRITTEN
AT	30.9% (sd 26.3%)	21.1% (18.2%)	37.9% (26.7%)	32.9% (12.8%)	63.3 (18.0%)	-
TO	35.4 (sd 21.1%)	45.2% (28.8%)	89.2% (19.8%)	86.2% (20.8%)	88.1 (16.7%)	-
FROM	13.9% (sd 10.1%)	14.2% (8.7%)	90.1% (22.0%)	90.5% (16.9%)	96.2% (12.0%)	-

Table 19: mean scores on individual prepositions in speech and writing in the performance of the three groups

7.2.1.1 Elementary Subjects

There are no significant differences between the performance of the elementary and intermediate groups between the two modes on the three preps. A series of t-tests show that the differences beween the mean scores of the two groups in speech and writing on the three preps are not significant at <0.05. The null hypothesis of no difference between speech and writing in the accuracy scores of the elementary and intermediate subjects can therefore not be rejected.

Although the differences between the mean scores are not significant the accuracy score of the elementary group on to is higher in the written medium (45.2%) than in speech (35.4%) while the performance of the same group on at is lower in the written medium (21.1%) than in speech (30.9%). The performance of the group on from remains more or less the same in both the oral and written modes (13.9% and 14.2% respectively).

Although there are no significant differences on the performance of the group across modes differences between preps within individual modes are significant. Tables 20 and 21 present the correlations and t-tests scores between the performance of the group on the preps from and to on which the

subjects are least and most accurate respectively. The differences between the mean scores are significant. A brief explanation of some of the statistical procedures used is in order here. As pointed out in Chapter Six the probability of no correlation" and the linear correlation are inversely related; the higher the correlation between the variables the lower is the "probability of no correlation."

to: 35.8
from: 13.9
linear correlation = -0.19
"probability of no correlation" = 39.8%

t-test = 4.25; probability of equal means = 0.01%
Table 20: Oral production (to and from) correlatiion and T test

to: 45.1%
from: 14.2%
linear correlation coefficient = 0.27
"probability of no correlation" = 23.9%

t test = 5.15; probability of equal means = 0.00%

Table 21: Written production (to and from) correlation and T-test

7.2.1.2 Intermediate Subjects

If one takes another look at Table 19 it is clear that the performance of the intermediate group on individual preps remains constant across the two modes. For example, the subjects are 90.1% accurate in speech and 90.5% accurate in writing on the preposition from. The results, however, have to be treated cautiously because of the high sds which imply that there is a high degree of inter-subject variability within the group.

Although the differences on the same preps between speech and writing are not significant, the differences between preps at and the other two prepositions (i.e. from and to) are significant within the two modes as shown in Tables 22 and 23 respectively.

For example, the t-test value which is obtained for the differences between **from** and **at** in the oral and written modes are 4.98 and 5.70 respectively. The following tables present the correlations and t-test results.

from: 90.1
at: 37.9
linear correlation coefficient = -0.15

t test = 4.98; probability of equal means = 0.00%

Table 22: Intermediate subjects oral production correlation and T-test

from: 90.5%
at: 32.9%
linear correlation coefficient = -0.45

t test = 5.70; probability of equal means = 0.00%

Table 23: Intermediate subjects written production (from and at) correlation and T-test

7.2.1.3 Advanced Subjects

The difference between the mean scores of the group on **at** and **from** in the oral production is significant. The obtained t-test value is 4.04 with a 0.03 probability that the means are equal, thus one can confidently say at a <0.05 level that the means are different. The null hypothesis of no difference is consequently rejected. The differences between **at** and **to** come close to reaching significance level with a t-test value of 2.72 with a 0.94 probability that the means are equal. It is not possible to compare the performance of the advanced subjects on individual preps in the written task because the subjects did not carry out the written task. There is a "hole" in the data.

7.2.2 Comments

Generally, the results show that differences in modes do

not seem to have a significant effect on accuracy in the use of individual preps but the groups perform significantly different on individual prepositions within the two modes. It is surprising that differences in mode do not seem to have significantly affected performance on individual preps because Tarone commenting on the possible effects of medium on accuracy argues:

> ".... a final task factor has to do with the amount of time allotted for the task. The **accuracy** with which learners produce certain language forms seems to vary systematically in relation to the amount of time they have to perform the task. Clearly this factor of time must be related to the question of time; writing allows more time than speech for modification of language forms" (1988: 123 the emphasis is mine)

The fact that there is no significant difference in the accuracy of the subjects seems to suggest that "higher-order" variables such as differences between medium are not powerful determinants of variation, if variation is measured in terms of grammatical accuracy and that "lower-order" variables such as the type of preps are more powerful predictors of variability. The other possibility is that variation should at best not be measured in terms of grammatical accuracy as Tarone suggests but should be assessed in terms of other more finer measurements which take into account the variants which subjects are using in the different modes. In section 7.3.1. it will be argued that although the subjects do not differ in terms of grammatical accuracy in either speech or writing differences can still be seen when one takes into account the range of alternants used in either mode.

7.3 Semantic Complexity Hypothesis

After examining the effects of differences between modes on language learner accuracy on individual prepositions, the next section attempts to examine how far accuracy on individual preps can be explained on the strength of the samantic complexity hypothesis (SCH).

The accuracy hierarchy for the elementary group is different from that of the other two groups. The elementary group is most accurate on at and least accurate on **from**. The performance of the other two groups is the exact opposite to that of the elementary group. The intermediate and advanced groups are least accurate on **at** and most accurate on **from**.

The accuracy hierarchies for the three groups are presented below. The (›) sign means that the subjects are more accurate on the prep to the left than on the one to the right. The differences between the accuracy scores on individual preps need not necessarily be significant. For example, the differences between **from** and to for the intermediate and advanced groups are not significant, while the difference between **at** and **from** is significant (see section 7.2.1.2/3).

Accuracy Hierarchy

Elementary : TO› AT› FROM

Intermediate : FROM› TO› AT

Advanced : FROM› TO› AT

It is interesting to observe that although the accuracy hierarchy for the intermediate group corresponds with that of the advanced group, the lowest mean score of the intermediate group is 32.9% on **at** which is not significantly different from the highest mean score of the elementary group which is on the same

preposition at. The highest mean score for the elementary group is (30.9%), but at the same time the highest mean score of the intermediate group is not comparable to the lowest mean score of the advanced group, but is in actual fact not significantly different from the highest mean score of the advanced group.

The highest mean score for the intermediate group is on from and is (90.5%) the highest mean score of the advanced group is also on the same preposition from and is (96.2%). It appears that the performance of the intermediate group is very susceptible to the nature and type of the prep which is being elicited. The behaviour of the intermediate group does not give firm support to the suggestion by Oller and Inal (1971) that a speaker's overall proficiency in English correlates with accuracy on preps.

Although accuracy in the use of preps does not necessarily always highly correlate with general proficiency, the performance of some of the groups particularly the elementary group lends partial support to the SCH by H. Clark (1973) which is briefly outlined here. A more detailed description of the SCH has been provided in Chapter Four section 4.3.2.

Within the SCH the complexity of preps (or markedness of preps) increases with the number of dimensions of the preps; the locative preposition at is the most basic because it serves as a "structural template" around which non-spatial uses of preps are organised (Lyons, 1977: 719). The dynamic prep to is more complex than the locative at because the former is marked on two dimensions i.e. location and movement. The prep from is the most complex of the three preps being studied here because not only is it marked in terms of movement like to but it is in

addition marked to indicate movement away from a location (i.e. negative directionality as well).

In the light of the complexity hypothesis just outlined it is interesting to observe that, on the one hand, the elementary group is least accurate on the prep which is the most complex in terms of the SCH i.e. from. This therefore lends support to the SCH. But at the same time the elementary group is not necessarily most accurate on the prep which is the least complex or least marked i.e at.

The performance of the intermediate and advanced groups are even more inconsistent with predictions made on the basis of the SCH. Both groups are most accurate on from the most complex prep and least accurate on the least complex prep at.

Two previous studies one with French-English bilingual children Mougeon et al (1977) and the other with adult Italian learners of English by Pavesi (1987) also report findings inconsistent with the SCH. There are two possible reasons why the performance of the groups may not be consistent with the SCH. H. Clark in his formulation of the complexity hypothesis stresses that the model may be restricted to comprehension with children acquiring their mother tongue. In a sense the model may not be applicable because it is being extended not only to second language learners but to their production as well.

Second, Mougeon et al and Pavesi also point out that predictions based on the strength of the SCH may be overridden by the influence of some of the strategies the subjects use when acquiring preps. For example, the low accuracy on at may partially be attributed to a general tendency to overgeneralise at to contexts in which to is appropriate producing constructions

such as:

(1) *The ambulance will take the man at hospital

(2) *The boys are running at the shops

(3) *The man is walking at his house

In order to investigate whether there is a tendency to use locatives instead of dynamic preps or vice versa an "error analysis" of the performance of the subjects is carried out. Table 24 presents raw scores and percentages of preps used instead of either at, to or from by the elementary group in both the written and spoken modes. The responses are not necessarily restricted to preps only. The variants include local adverbials such as here, there etc because the subjects sometimes use adverbials in place of preps.

The categories of preps which are used as variants of either spatial or non-spatial preps are divided into three categores: locatives, dynamic and zero preps.

From a TL perspective the responses are all "incorrect substitutes" of the three preps being investigated but from a variability perspective the responses are all variants of the three preps.

A x^2 is performed to see if there is a significant difference between the different types of response

ORAL TASK, ELEMENTARY GROUP

	LOCATIVES	DYNAMIC	ADVERBIAL	ZERO PREPOSITIONS	TOTAL
AT	38 (40%)	25 (26%)	22 (23%)	9 (9.57%)	94

WRITTEN

	LOCATIVES	DYNAMIC	ADVERBIAL	ZERO PREPOSITIONS	TOTAL
AT	32 (46%)	19 (27%)	13 (18%)	5 (7%)	69

Table 24: Spatial prepositions : frequencies in raw scores and percentages of unexpected responses in the oral and written modes

The analysis focuses first on the variants which are used instead of at by the elementary and intermediate groups in both the written and spoken modes. No detailed analysis of the performance of the advanced group is reported because there is a strong tendency among the advanced subjects to use local adverbials if they are not using spatial preps such as at. Consequently, their range of options is much narrower and stricter than that of the other two groups as will become clearer soon. There is thus a sense in which the degree of variability seems to decline with an increase in proficiency. Expressed differently, the range of options advanced learners have to express spatial and directional relations is much narrower than that of the elementary and intermediate subjects.

7.3.1 Elementary

The differences between the frequency of occurrences of the four types of responses used by the elementary group instead of at proves significant. The x^2 critical value with 3.d.f. is 16.266 for the <0.001 level. The obtained x^2 value of 21.95 is greater than the critical value, so the differences are significant. The x^2 value obtained for the written task is 21.34. This again proves significant at $<$ 0.001 with the same degrees of freedom. This means that the frequency with which the elementary group uses locatives, adverbials, dynamic and zero preps is significantly different. The following are examples of constructions produced by the group when substituting dynamic, zero preps etc. for at. In all the sentences at is obligatory

in the TL:

(1) *The child is standing 0 gate (zero preposition)

(2) *The star is on top of the page.

(3) *Peter is standing inside the gate

(4) *Peter is into the bus stop

Although the types of responses which are used by the elementary group are significantly different in both the oral and written modes, the striking difference is that there are 19 different responses in the spoken mode; the number is reduced to nine in the written mode. Table 25 gives the range of variants in the speech and writing of elementary learners. The following is a list of preps/adverbials occurring at least three times or more in the oral and written modes.

Oral mode

From, in, on, to, into, of, onto, out of, for, next, last, infront of, down, first, top, outside, here, zero prepositions.

Written mode

To, from, onto, in, near, into, on, out of, zero, prepositions

Table 25: Prepositions and adverbials occurring at least three times in the oral and written production of elementary learners.

It appears that the subjects operate with a smaller range of alternants for expressing spatial relationships in the written medium than in speech. The difference between the speech and writing of elementary learners is lost, if the degree of variability between the two modes is assessed in terms of grammatical accuracy only.

The wide range of variants used by the subjects arises because of the heavy pressures to communicate quickly in speech. Because of

the heavy pressures learners try to recude the pressure by avoiding having to decide between potentially competing forms by simply accessing forms already highly "automated". In the written medium the subjects try and resolve the potential conflict between competing forms by selecting forms which are viewed from their IL perspective as being the more correct ones. Learners take time to choose between competing forms because of the absence of pressures on their "control" meachanism to communicate rapidly. The resolution of the conflict between competing forms does not increase their accuracy as pointed out, but has the important consequence of limiting the range of potential variants which they use.

7.3.2 Intermediate Group

The subtle impact of differences between speech and writing is also felt in the language behaviour of the intermediate group. The responses of the intermediate group when attempting to describe spatial preps is again also divided into four categories (locatives, dynamic, adverbials,zero preps). In speech (44%) of the "unexpected responses" are locative preps such as **in/on** etc. Forty one (41%) are adverbials such as **here, down, in front** etc. The rest are either **zero** or dynamic prepositions. In other words just over 80% of the "errors" of the intermediate group stem from the use of either other static preps or local adverbials.

The situation is different in the written mode. The subjects clearly seem to prefer using locatives much more than adverbials. In speech fifty six percent (56%) of the unexpected responses are locatives and thirty five (35%) are adverbials and

ten percent (10%) are either dynamic of zero prepositions. Table 26 displays the frequencies and percentages of variants used instead of at by the intermediate group in speech and writing.

ORAL PRODUCTION

	LOCATIVES	ADVERBIALS	DYNAMIC	ZERO PREPOSITIONS	TOTAL
AT	28 (44%)	26 (41%)	5 (8%)	5 8%	64

WRITTEN PRODUCTION

	LOCATIVES	ADVERBIALS	DYNAMIC	ZERO PREPOSITIONS	TOTAL
AT	35 (56%)	22 (35%)	2 (3%)	3 (5%)	62

Table 26: Spatial prepositions: frequencies in raw scores and percentages of unexpected responses for the intermediate group in speech and writing

The difference in the four categories of non-TL like responses is significant. The obtained x^2 value is 47.62 and this is significant at 3 d.f. at 0.005 level. The critical x^2 value with 3 d.f. for the 0.005 level is 12.8381 so the null hypothesis of no difference between different types of responses is rejected.

The fact that there is a higher probability of using locatives in the written mode than in speech while there is an equal probability of the subjects using either locatives or adverbials in speech implies that the linguistic rules are indeterminate and the subjects seem to call upon the rules in a

variable way depending upon whether the mode is written or spoken. The hierarachy of importance between adverbials and locatives varies depending on the type of mode.

7.3.3 Directional Expressions

The section on directional expressions is divided into two. The first part focuses on how the subjects describe movement towards a point or a destination perceived as a point. In other words, the first part concentrates on a description of the variable realisation of movement to in IL. The second part focuses on how directionality is expressed when the movement is not towards a destination, but away from it (i.e. from). Because of the high degree of accuracy in the production of the intermediate and advanced subjects on from and to the next section just focuses on the performance of the elementary group.

The performance of both the intermediate and advanced subjects is over 80% in both speech and writing. If a cut off point of 80% is set the intermediate and advanced groups can be said to have acquired to and from. Because of the high degree of accuracy in the performance of the intermediate and advanced groups there is very little room for variable performance. Their performance is becoming increasingly categorically accurate.

7.3.3.1 Elementary

In order to investigate the variable ways in which movement towards a point is realised, the method of analysis used here is comparable to the one outlined in section 7.3.1 to describe variants of at is used. Table 27 displays frequencies and percentages of preps and adverbials which are used to express

movement.

ORAL PRODUCTION

	LOCATIVES	DYNAMIC	ADVERBIAL	ZERO PREPOSITIONS	TOTAL
TO	53 (70%)	23 (24%)	-	5 (7%)	81

WRITTEN PRODUCTION

	LOCATIVES	DYNAMIC	ADVERBIAL	ZERO PREPOSITIONS	TOTAL
TO	12 (44%)	15 (55%)	-	-	59

Table 27: Dynamic prepositions: frequencies in raw scores and percentages of unexpected responses used by the elementary group to express movement in speech and writing for the elementary group.

As can be seen from Table 27 there are three main ways in which the elementary group describes movement. The subjects either use locatives such as **at, on, in** etc.; positive or negative directional preps such as **into, out of** etc and **zero** prepositions. The following are some examples of the three types of utterances in the production of the elementary group. In all the examples the prep **to** is obligatory in the TL.

(1) *The man is walking at his house.

(2) *The boys are running at school because they are late.

(3) *The ambulance will take the man in the hospital

(4) *The man is walking out of the house.

(5) *The bus is going ∅ Harare

There is a strong tendency to use **at, in** or **on** for the prep **to**.Seventy (70%) of all the variants used instead of **to** are locative prepositions. As is seen from table 27 dynamic and zero preps are used 24% and 7% respectively. The critical x^2 value with 2 d.f. for the $<$ 0.001 level is 13.016. The obtained x^2 is 39.23, so one can feel quite confident that there is a difference in the types of responses from the elementary group when describing directionality.

The tendency to use locatives in writing is not as strong as it is in speech. The subjects use locative preps 44% of the time in writing as opposed to 70% in speech. Dynamic preps are used 55% of the time in writing and 24% in speech as pointed out earlier. The difference between locatives and dynamic preps in writing is however not significant.

More importantly there are no instances of **zero** preps in the written performance of the subjects, so there is a difference in the responses occurring in speech and writing not only in terms of frequencies, but in terms of the types of responses as well.

The tendency to use locatives in place of dynamic preps is a phenomena which has been observed in the speech of learners coming from a number of diverse language backgrounds (i.e. Italian, Japanese, French etc.) (see Pavesi 1987, Schumann 1986, Mougeon et al 1979)

There are a number of factors which may contribute towards the tendency to use locatives instead of **to**. First, it may be a simple case of transfer because movement in the subjects' L1 is lexicalised and not encoded in prepositions. At another level the transferability of this strategy may be facilitated by the

fact that a lot of languages including pidgins generally tend to use locatives to express movement (Traugott 1974). It appears there are two factors operating in a complementary relationship to shape the nature of IL production i.e. **transfer** and **universal factors.** The influence of these two factors is felt much more in speech than in writing because of the strong tendency in speech to use locatives much more than dynamic preps to express motion. This implies that the oral production of elementary learners is much more permeable to both L1 and universal influences than writing. This again points to the existence of a subtle distinction between speech and writing arising because of the differences in the influences regulating speech and writing. This difference is again not captured through accuracy measurements.

The fact that the speech of the elementary group is permeable to L1 and universal influences highlights the differences between Tarone's vernacular style and the oral production elicited in this study. The vernacular style for Tarone is regulated by universal factors and not the L1. In this study both the L1 and universal factors operate in speech. It is however not very useful to try and sort out the exact weight of the influences of the L1 vis-a-vis universal processes.

If the actual weight of the L1 or universal influences in the use of preps such as **at, in, on** as substitutes of **to** is not clear the opposite is the case in the use of **zero** preps. Predictions based on transfer lead to the expectations that Shona learners of English do not use zero preps because preps are salient in their L1, so they are likely to perceive them in the TL input. The presence of zero preps can be attributed to

univeral cognitive strategies by L2 learners as they come to rely more on context rather than lexical material to express meaning resulting in the use of zero prepositions (Schumann).

7.3.3.2 Negative Directionality

As might be expected the elementary learners also alternate in the way in which they express movement away from a place seen as zero dimensional. The learners use a total of four different categories between speech and writing, although only three different categories occur in either mode. On the one hand, the subjects use adverbials in the spoken mode, but not in the written mode. On the other hand, they use zero forms in the written mode and not in speech. The following tables present the raw scores of the elementary group in terms of frequencies and percentages in the oral and written production of the elementary group.

ORAL PRODUCTION

	LOCATIVES	DYNAMIC	ADVERBIAL	ZERO PREPOSITIONS	TOTAL
FROM	32 (37%)	52 (60%)	2 (3%)	-	86

WRITTEN PRODUCTION

	LOCATIVES	DYNAMIC	ADVERBIAL	ZERO PREPOSITIONS	TOTAL
FROM	31 (51%)	23 (38%)	-	6 (10%)	60

Table 28: Negative directionality, frequencies in raw sources of unexpected responses used by the elementary group to express negative directionality in speech and writing by elementary leaners.

The differences in the frequencies with which different categories occur either in speech or writing are significant at 0.05 level. The categories occurring in either speech or writing are arranged in descending order beginning with the most frequently occurring category.

ORAL	WRITTEN MODE
Locatives	locatives
Dynamic	Dynamic
Adverbials	zero prepositions

The following are some examples illustrating the variable realisation of negative directionality in the speech of the elementary subjects. In all the utterances the preposition **from** is obligatory in the TL although the preposition **in** is also acceptable in sentence number (4).

(1) *The boy is running away on his mother.

(2) *The boy is running away at his mother.

(3) *The bus is coming into the rural areas and is going Harare village

(4) *The boy has just taken a bottle of milk outside the fridge.

(5) *The man is coming to town and walking at the shops.

The use of **away at** and **away on** is likely to be an indication of the learners' preference for using locatives instead of dynamic prepositions. Locatives are marked on fewer dimensions than directional preps and H. Clark has argued that preps with more dimensions are more marked than those with fewer dimensions so locatives are less marked than negative directional prepositions. It seems that when L2 learners are varying their language at times they prefer forms which are **less marked** than

the variable rule i.e. using at instead of to.

If it is true that variation in the use of negative directionality consists of using preps which are less marked than the variable form, it is therefore puzzling that at times the subjects use preps marked for negative directionality out of a three dimensional space, instead of **from** which is marked for negative directionality from a zero dimensional space (see sentence No. 3 in which **out of** is used instead of **from**). This is surprising because the prep **out of** has more dimensions than **from**, so consequently the former is more marked than the latter. (**Out of** is marked in terms of movement from a three dimensional space, **from** is marked in terms of movement from a zero dimensional point). The use of **out of**, **into** etc which both have more dimensions than **from** suggests that L2 learners do not necessarily always use forms which are less marked than the variable form. The alternants of a variable form may be more or less marked than the variable rule.

Local adverbials are another favourite way in which L2 subjects express either location or movement. This suggests that the verbal repertoire of the subjects when describing spatial relations and movement is not restricted to preps only. The repertoire includes words taken from other word classes as well.

7.3.4 Lexical Hypothesis

Previous sections have looked at the variable nature of the production of second language learners particularly elementary learners and shown that differences between speech and writing can account for some of the variation in the IL

production of the subjects in this study, if the variation is assessed in terms of the range of options open to the subjects in either mode. An attempt is also made to explain the alternation in the use of some preps in terms of the degree of markedness of the variants. This section goes further and examines if variable performance in the production of the subjects can be attributed to the nature of the preceding verb.

Table 29 presents in percentages the different preps occurring with five different verbs in the oral production of elementary learners. The prep at is obligatory with all the verbs in the sentences cited. For example;

(1) The man is sitting at the bottom of the stairs

(2) The boy is standing at the back (in the back row)

(3) The man is knocking at the door.

VERB	ACCURACY SCORE	RANGE OF PREPOSITIONS
Write	67%	3
Sitting	50%	4
Stand	41%	10
Copula (Present)	22%	8
Knock	10%	7

Table 29: Mean accuracy of five different verbs

The level of accuracy of the subjects is spread unevenly across the five different verbs. The degree of accuracy on each verb ranges from 10% to 67%. The subjects are most accurate when using the verb **write** and least accurate on **knock** as the Table 29 shows.

None of the five verbs occurs with one prep only, all the

verbs attract a number of different preps. Each verb attracts a minimum of at least three preps in contexts in which a single prep is obligatory in the TL. For example **write** occurs with to, on and at. The subjects are most accurate on **write** which occurs with the smallest range of prepositions. This however does not necessarily mean that the subjects are least accurate on the verb which attracts the largest number of different prepositions. The verb **stand** attracts a total of ten different preps/adverbials, but the subjects are more accurate on **stand** than **knock**, this implies that the range of preps is not neccesarily inversely correlated with accuracy.

The wide range of preps suggests that the type of preps which are used with an individual verb alternate. This means that the hypothesis that an individual verb will attract a single prep at any one point in IL development is not necessarily valid.

Because of the wide range of preps attracted by a single verb it is tempting to feel that the selection of preps after an individual verb is random. This however, is not necessarily true.

A closer analysis shows that the selection of the preps is not as random as it first appears, if one takes into account the perceptual space the subjects are describing. In other words, the selection of individual preps is determined not so much by the nature of the preceding verb but by the nature of the physical space the subjects are referring to. The influence of the NP after the verb as a potential factor in determining selection of individual preps is illustrated by citing the example of the verb **stand** which occurs with a number of different NP complements. The verb **stand** is used in the data in

describing relationships to five different spatial points.

(1) The boy is standing at the back

(2) The farmer is standing at the gate.

(3) Ann is standing at the top of the stairs.

(4) The woman is standing at/on the corner

(5) The boy is standing at the front.

An analysis of the performance of the subjects shows that although the subjects are 41% accurate in their use of the verb **stand**, the subjects use the prep at 95% of the time when the spatial point being referred to is a **gate** or a **corner.** This is interesting because it shows that what appears like random selection of preps is systematic because it depends on the nature of the perceptual space or the NP complement after the verb. The variation in the use of **stand** depends very much on whether the location being referred to is a **gate**, a **corner**, **stairs** etc. Possibly, **standing at the gate**, **standing at the corner** are semi-formulaic expressions implying that the prep is tied to both the **preceding verb** and the **following NP.**

7.3.5 Summary/Comments

The previous section has shown that the performance of L2 subjects in their production of preps is variable. Variability in the use of the three spatial and directional preps is mainly restricted to the performance of the elementary subjects with the scope of variabilty reduced in the performance of intermediate and advanced subjects. Since the elementary subjects are at an early stage of IL development. it is possible to argue that there are some linguistic subsystems in which variability "sets in" from early stages of second language learning. L. Dickerson

(1974) in a longitudinal study reports that some learners' IL is variable from the beginning. Dickerson's study focusses on phonology. This study thus shows that the variation can be extended to other subsystems such as prepositions. Two other potential sources of variability are also identified:

(1) the nature of the mode (ie spoken vs written)

(2) the type of preceding verb

ACCEPTABILITY JUDGEMENTS

7.4 Introduction

This section has broadly speaking three main aims. The first section reports on attempts to compare the ability of the three groups to accurately identify sentences which are regarded as either grammatical (G) or ungrammatical (U) from a TL perspective. The second aim of the study is to see if accuracy in judgements is affected by the experimental conditions in which the judgements are administered. The final part compares judgements of acceptability with production.

7.4.1 Results

Each of three groups of subjects is asked to judge a total of twenty (20) sentences. The twenty (20) sentences are divided into two main categories grammatical (G) and ungrammatical (U) as pointed out in Chapter Five Section 5.4.3.2. There are a total of six G sentences. The fourteen (14) U sentences are broken down into three categories. The first category consists of sentences in which the prep at is used instead of to.

There are five sentences in this category. The second category of U sentences is composed of those sentences in which

zero preps are used. There are six sentences in this category. The third category is composed of "miscellaneous errors". Preps such as to, into etc are used instead of at. There are only three sentences in this final category.

A total of eighty eight (88) subjects took part. There are 28 elementary subjects, 29 intermediate and 31 subjects from the advanced group.

Table 30 presents the results of the three groups on the correct judgements made by each group on G and U sentences when the amount of time experimentally allowed is restricted and relaxed respectively (i.e. -Time and +Time). The group means are in raw scores and percentages. The standard deviations (sds) for the performance of each group are also given. The results of the one way Anovas are given at the bottom of the table in terms of F-ratios only.

	Grammatical Sentences	
	-T	+T
Level I N = 28	61.59% 3.70 (sd 1.46)	58.72% 3.52 (sd 1.96)
Level II N = 29	76.67% 4.60 (sd 0.92)	84.11% 5.05 (sd 0.92)
Level III N = 31	84.67% 5.08 (sd 0.69)	87.33% 5.24 (sd 0.76)
	F = 9.82 (prob (equal means = 0.0%	F = 11.57 Prob (equal means) = 0.0%

Table 30: Scores on correct judgements on grammatical sentences in -/+ Time

An analysis of the table shows that there is a gradual

increase in the number of correct judgements made by the three groups as a function of proficiency in both -/+ Time. It is apparent from the table that the elementary group is able to correctly identify 62% of the G sentences, while the intermediate and advanced groups correctly identify 77% and 85% of the G sentences in -Time respectively. Similarly, in +Time the elementary subjects are able to accurately identify 59% of the G sentences while the intermediate and advanced subjects identify 84% and 87% of the G sentences.

Interestingly, not only are the advanced subjects more accurate in identifying G sentences which is what one might expect, if the ability to accurately identify G sentences increases with proficiency but they are also more homogeneous when compared with the other two groups. The standard deviation of the advanced group is 0.69 in -Time while the standard deviation of the elementary group (which is the highest of the three groups) is 1.46. The high standard deviation of the elementary group is a reflection of the high degree of inter-subject variability within the group implying that the elementary group may be entertaining a number of idiosyncratic hypotheses. The decline in standard deviation with an increase in proficiency may suggest that some of the idiosyncratic hypotheses are either confirmed or disconfirmed as the subjects are exposed to more TL input and consequently the subjects many begin to entertain similar hypotheses about the TL as they become increasingly more proficient.

A series of correlations and t-tests are run to compare the performance of each group in -/+ Time. The results show that there is no significant difference between the mean scores

of each group in -/+ Time. The results of the correlation are shown in Table 31. (See appendix for the results of the t-tests).

Ungrammatical (total)	Correct Judgements	
	r	Correlation prob (of no correlation)
Level I	0.26	22.3
Level II	0.48	3.8
Level III	0.63	0.1

Table 31: Correlations on correct judgements on ungrammatical sentences in - and + Time

Although the differences between the mean scores in -/+ Time for each group are not significant, the mean score for the elementary group falls from 62% in -Time to 59% in +Time, while the mean scores for the other two groups improve in +Time. For example, the mean score of the intermediate group in -Time is 76%, in +Time it rises to 84%, while that of the advanced group shows only a marginal increase from 85% in -Time to 87% in +Time. The availability of more time in AJ has different effects on the accuracy of the judgements of the three groups. It has an adverse effect on the elementary group while the intermediate and advanced groups benefit from the availability of more time. Similar patterns are observed in the judgements of the three

groups on the 3rd person. The results have to be interpreted cautiously because as pointed out the differences in -/+ Time are not significant. (See also Chapter Six section 6.4).

The results of the one way Anovas in Table 30 show that the performance of the three groups in -/+ Time are significantly different. The performance of the intermediate groups is equidistant between that of the elementary and advanced groups in -Time but in +Time the difference between the elementary and intermediate group is greater than that between the intermediate and advanced groups because the accuracy score of the elementary group drops in +Time while that of the intermediate group increases with that of the advanced group remaining more or less unchanged.

7.4.1.1 Correct Judgements on Ungrammatical Sentences

Table 32 presents the results of the performance of each of the three groups in their judgements on U sentences in -/+ Time, in terms of mean scores and standard deviations. Table 32 also presents the correlations between the correct judgements of each group on ungrammatical sentences in -/+Time.

	-T	+T
Level I	23.41%	17.73%
	3.04	2.30
	sd 2.24	sd 1.97
Level II	56.54%	58.85%
	7.35	7.65
	sd 3.17	sd 3.48
Level III	81.54%	76.92%
	10.60	10.00
	sd 2.24	sd 2.61

F = 50.49
prob (equal) means = 0.0%

F = 47.62
prob (equal means) = 0.0%

Table 32: Correct judgements on ungrammatical sentences in - and +T for the three groups

Table 33 shows the correlations of correct judgements on ungrammatical sentences in -/+ Time.

level	correlation	probability of no correlation %
Level I	0.26	22.3
Level II	0.48	3.8
Level III	0.63	0.1

Table 33 : correlations of correct judgements in -/+ Time

Each of the three groups does not perform significantly different in -/+ Time when judging U sentences. In other words, the three groups are not significantly "better" when judging U sentences when there is more time available than when there is no time.

Although the groups do not perform significantly different in -/+Time the correlations of the advanced group is higher than that of the intermediate and elementary groups. The correlation of the advanced group is (r = 0.63) while that of the elementary and intermediate groups are (r = 0.26) and (r =0.48). The fact that the correlation of the advanced group is stronger than that of the other two groups implies that the degree of intra-subject consistency increases with proficiency with the elementary subjects being the least accurate and most variable and the advanced group being the most accurate and least variable. This implies that even at an intuitional level variability declines with proficiency. Variability has also been shown to decline with an increase in proficiency in the subjects usage of

prepositions.

Two inter group one way Anovas for the performance of the three groups show that the performance of the groups on U sentences are significantly different (see Table 32). The F ratios in -/+Time are fairly high (50.49 and 47.62) respectively with a zero probability on both occasions that the means of the three groups are equal.

It is interesting to observe that although the performance of the three groups is not significantly affected by the availability of more time when judging the grammaticality of both U and G sentences the elementary and intermediate groups have a better idea when they are right than when they are wrong. For example, the elementary group correctly identifies 62% of the G sentences and 23% of the U sentences in -Time. Similarly, the intermediate correctly identifies 76% of the G sentences and 56% of the U sentences in -Time.

However, the differences between the accuracy scores for the advanced group when judging U and G sentences is very slight indeed. For instance, the advanced group is 84% accurate when judging G sentences in -Time and 81% accurate when judging U sentences. This suggests that the advanced group has comparable abilities when judging either G or U sentences unlike the other two groups who seem to have a better idea when they are right than when they are wrong.

The point which has just been made is that judging U and G sentences seems to be a different operation for the elementary and intermediate groups. The fact that recognising sentences as grammatical is easier than recognising ungrammatical sentences is supported by a number of studies in SLA (Bialystok 1979;

Greidamus and Van der Linden 1987). It has been argued that recognition of grammatical sentences is easier than recognition of ungrammatical sentences because as stressed in psychological research giving a positive answer is generally easier than giving a negative answer (c.f. Noordman 1977: 36-37). Although judgements of U and G sentences are different for the elementary and intermediate groups, the judgements of U sentences may vary depending on the type of grammatical error in the construction. In this study this means comparing judgements made on sentences with zero prepositions with those involving "incorrect substitutions".

Table 34 presents the mean scores of the elementary and intermediate groups on their correct judgements on sentences with zero prepositions and sentences in which prepositions have been wrongly substituted.

Level I	-T	+T
Ungrammatical-omission	21.74%	22.61%
Ungrammatical-to/at	25.22%	16.52%
Level II		
Ungrammatical-omission	63.00%	65.60%
Ungrammatical-to/at	49.00%	46.00%

Table 34: Correct judgements on sentences with zero and wrongly substituted prepositions

The elementary group is apparently just slightly better at correctly identifying sentences with preps wrongly used than sentences with zero preps in -Time. In +Time the opposite seems to be the case, the group is better at identifying sentences with zero preps than sentences with inaccurate substitutions.

The fact that the subjects have fewer correct judgements

on zero preps implies that the group is either undecided or finds zero preps more acceptable than "wrongly" used prepositions.

If the elementary group finds zero prepositions more acceptable than "incorrect substitutions", it is important to point out that this would be inconsistent with their production. In their production the subjects tend tc use more incorrect substitutions than zero preps. Their use of "incorrect substitutions" in production may be prompted by the fact that the subjects think the task requires "incorrect substitutions" and not zero prepositions, and not necessarily because they find the former more acceptable than the latter. If this is true this implies that the picture which is created, if the competence of the subjects is based on production data only is different from the one constructed on the basis of both production and data from AJ.

But, the situation is complicated by the fact in +Time the subjects have more correct judgements on zero prepositions than incorrect substitutions which may be taken to imply that they find the latter more acceptable than the former if one accepts that the subjects would not deliberately produce constructions which are unacceptable particularly when writing for a researcher whose status they regarded as comparable to that of their teachers (see Chapter Six).

The judgements of the intermediate group are more stable. In both -/+Time the subjects are more accurate when identifying zero prepositions than sentences containing incorrect substitutions. This suggests that the group sees the judgement of zero preps as easier than judging incorrect substitutions. The fact that the intermediate group is more likely to accept

sentences with incorrect substitutions than zero prepositions is consistent with the evidence from their production. In their production the subjects produce more "incorrect substitutions" than zero prepositions. Evidence from their judgements seems to be similar to the one from their production tasks.

7.4.1.2 Comparing AJ and Production

After having presented the results of the judgements which basically involves comparing the performance of the groups when judging G and different types of U sentences, this section compares the overall accuracy of the subjects in AJ with their performance in the written and oral production tasks. The results presented are only of those subjects who took part in both the production and the AJ tasks. Table 35 presents the mean scores in percentages of the three groups on their performance in AJ and production.

	Oral production	-Time	Written Production	+Time
Level I N = 17	23.70	34.52	24.25	34.70
Level II N = 16	76.39	57.81	66.71	65.125
Level III N = 15	79.04	80.26		

Table 35: Mean scores of the three groups in AJ and production expressed as percentages.

The accuracy of each group in -Time is compared with the performance of the same group in the oral task. Similarly, the

performance of the same group in +Time is compared with the performance of the same group on the written task. It is felt that in the written task the subjects spend comparatively more time than in oral task because of the nature of the written medium, so the written task should be compared with AJ made in +Time conversely performance on the oral task should be compared with performance in - Time.

The accuracy scores for the elementary group in -/+Time are consistently higher than accuracy scores in the oral and written tasks as Table 35 shows. The results of a t-test show that differences between the mean scores are significant. The t-test value with 16 d.f for <0.0005 is 4.015.

The obtained t-test value for the difference between the scores on -AJ and oral production is 24.88. The obtained t-test value for the difference between scores in +Time and the written task is 21.85. This again is significant. This shows that the scores elementary group are consistently higher in AJs than in production.

The relationship between AJ and production is not very clear for the intermediate group. The accuracy score for AJ in -Time is lower than that obtained in the oral task. The subjects are 76% accurate in oral production and 57.81% accurate during judgements in -Time. The difference is significant at <0.0005. The obtained t-test value is 22.23 with 15 d.f. The critical t-test value with the same degrees of freedom at the same level of confidence is 4.073.

The mean scores between written production and +Time AJ are almost identical; 67% and 65% respecitvely. No t-test is therefore run. The differences between production and AJ seems

to be restricted to oral and -Time judgements only.

There is no significant difference between judgements in -Time and the oral production of the advanced group.

To summarise thus far it has been found:

(1) There is no significant difference between the correct judgements made by the groups in -/+Time on both U and G entences for all the three groups.

(2) The elementary and intermediate groups are more accurate at recognising G than U sentences. The advanced group is equally accurate at judging both U and G sentences.

(3) The elementary group is consistently more accurate in their judgements than in their production. The intermediate group is more accurate on AJ in -Time than on oral production. There is no statistically significant difference between their written production and AJ in +Time.

7.4.2 Discussion

The fact that there are no significant differences between judgements made in -/+Time might be taken to mean that the subjects are relying on the same criterion for their judgements in both experimental conditions. It is possible to argue that the subjects are basing their judgements on their "feelings" of grammaticality and not on their metalingual knowledge.

Partial support for the claim that the subjects are relying on what Bialystok and Sharwood Smith (1985) call "unanalysed" or "implicit knowledge" is indirectly gained if one takes a closer look at the attempts by the subjects to explain the basis on which their judgements are made. A very strong impression is created that the sentences sound right for reasons

that are completely obscure to the subjects. Because the reasons are obscure it is not surprising that justifications for the judgements are rarely found (Bialystok 1981).

The inability to provide linguistic or quasi-linguistic descriptions of the rules the subjects think are underlying their judgements, suggest that even when the subjects are allowed to spend more time on their judgements, the subjects are not going to make use of their metalingual knowledge because their knowledge has not yet been represented in an analysed form in their mental grammars. If the subjects do not have "explicit knowledge" of the target language structure they are likely to fall back on their intuitive knowledge irrespective of the experimental conditions in which the judgements are made.

Second Language learners are likely to fall back on their intuitive knowledge if the structures which they are judging are perceived by the subjects for one reason or other to be complex. Prepositions may be seen by second language learners as complex because the learners have to establish a systematic relationship between the various types of preps. Another reason why preps are likely to be seen as complex is that second language learners may seek to establish relationships between individual preps and preceding verbs. The relationship may be rendered even more complex if the learners try and build a rule system which takes into account the noun phrase complements coming after the individual prepositions as well (see section 7.3.4).

The complexity of rules governing the use of prepositions is indirectly seen in that even the advanced subjects are not sure about the grammaticality status of some of the sentences. This suggests that even at an advanced level, usage of

prepositions is governed by a degree of indeterminacy which is absent from the judgements of the advanced group on the 3rd person singular. The indeterminacy is evident in that even advanced learners still select the "not sure" category, reflecting the indeterminate status of some of the rules in their grammars.

The validity of acceptability judgements as a source of data for the construction of the competence of advanced learners is strengthened because indeterminacy in the area of prepositions is not easily revealed when the production of advanced learners becomes indistinguishable from that of native speakers.

7.4.2.1 A Comparison between judgements and production

In Chapter Six it is pointed out that there is a dramatic difference between the production and judgements made by the elementary group on the 3rd person singular. The elementary group is relatively homogeneous in its production but extremely variable at a judgemental level. The variability at a judgemental level is traced back to random choice hence their AJs are not taken as a true reflection of genuine linguistic indeterminacy.

But the situation is different as far as judgements on preps by the elementary group are concerned. The variability seems to be a reflection of genuine linguistic indeterminacy more than random choice. The variability in the performance of the elementary group is not restricted to AJ only but also occurs in production as well. Thus the variation in judgements is taken to reflect linguistic indeterminacy more than random guessing.

Another interesting fact about the performance of the

elementary group on their AJs and production is that the subjects are more accurate on their judgements than in their production. The increase in accuracy in their judgements may be taken to mean that the elementary learners benefit much more when there is an explicit focus on linguistic form in AJs with structures such as prepositions. This lends partial support to Tarone's (1983) hypothesis that accuracy is expected to increase with more attention on form.

However, judgements unlike the oral and written production tasks used in this study may assess not only the learner's knowledge about the TL, but his test taking abilities also. In that sense the accuracy score on AJs reflects both test taking abilities and TL knowledge unlike the oral and written production tasks which are likely to tap TL knowledge more than test taking abilities. If accuracy scores in judgement reflect test taking abilities then the validity of data from AJ as a source of evidence for modelling IL competence becomes suspect.

The relationship between the accuracy scores on judgements and production is difficult to explain for the intermediate group because on the one hand, the subjects are more accurate in their judgements in -Time than in their oral production. At the same time there is no significant difference between accuracy scores in +Time judgements and written production. If the accuracy scores of the intermediate group in -Time AJs again reflect test taking abilities on the one hand, the low scores in production may reflect some of the constraints which are imposed on the learner's mechanism which makes it difficult for the subject's knowledge to surface during oral production. The fact that there is not much of a significant difference between AJs in

+Time and written production indirectly reflects that the basis on which judgements and productions are made is not completely different for the intermediate group.

Similarly, the scores of advanced group in production and in -Time judgements are not significantly different implying that the competence underlying production may be comparable to the one that is activated when intuitional judgements are being made. This in a sense lends partial support to Adjemian's (1976) "homogeneous competence model" which claims that the competence underlying production is the same as the one underlying grammaticality judgements.

7.4.3 Conclusions

This chapter has shown that variation in the use of prepositions is mainly restricted to the performance of the elementary subjects. The variability of the elementary group has been traced back to a number of different sources.

(a) the type of preposition
(b) the type of preceding verb
(c) differences between writing and speech modes

The study has shown that higher order variables such as differences between types of modes are not powerful predictors of variability if variability is assessed in terms of accuracy only.

Variability has also been observed between the AJs of the elementary group and its production. The differences between judgements and production is reduced for the intermediate and advanced subjects. This is interpreted to mean that AJs may be valid when modelling the IL competence of more proficient subjects than the elementary group.

CHAPTER EIGHT: CONCLUSION

8.0 Introduction

The conclusion is broadly divided into two main parts. The first part summarises some of the more important findings in the study. The second part makes recommendations about future research in interlanguage variability.

SUMMARY OF MAIN FINDINGS

"....there is substantial evidence to show that interlanguage variation **exists** and is an important phenomenon to be accounted for in the process of second language acquisition" (Tarone 1988:135 the emphasis is mine).

8.1 Elementary Subjects

Evidence from this study has shown that whether the performance of elementary learners was going to be variable or not depended to a large degree on the nature of the linguistic structure being investigated. For instance, this study set out originally to investigate the scope of interlanguage variability in the use of the 3rd person singular and prepositions. When the elementary group proved **not** to be variable in their use of the 3rd person singular a third structure was added, i.e. pronominalisation.

The elementary group were not variable in their use of the 3rd person because they preferred using the zero or unmarked form irrespective of how the target language was used. This implied that at an early stage of IL morphological development both higher and lower-order variables did not necessarily result in IL

variability in the use of the 3rd person singular. Neither higher nor lower-order variables were effective enough to render the IL system variable because the subjects did not possess what Ellis calls a "heterogeneous rule system" (1985:267).

This did not necessarily imply that the IL of second language learners was not "heterogeneous" in all other subsystems. The opposite was in fact the case. For example, the same group of subjects who did not possess a heterogeneous morphological rule system were clearly variable in their application of procedures for actualising knowledge about pronominalisation depending on the type of discourse. The use of pronominalisation revealed a high degree of sensitivity to differences between speech and writing. The analysis of early IL showed that elementary learners rarely used pronouns to refer to preceding referents preferring to use variants in a way which was contrary to target language norms (i.e. repetition and ellipsis).

What was interesting was that the variable systematicity in the realisation of pronouns in oral (unplanned discourse) gave way to a categorical rule application in the written mode (planned discourse). In the written mode the subjects repeated the same full NP avoiding the use of zero grammatical subjects as was the case in the oral discourse.

The use of zero grammatical subjects alternating with the repetition of full noun phrases was regarded as one of the key ways in which the elementary learners' attempted to render their discourse cohesive in speech. In writing, the subjects predominantly repeated the same full NP and "shied" away from using zero grammatical subjects. Since zero subjects were one

of the strategies the subjects had at their disposal to render their discourse cohesive, it can be argued the subjects regarded their written performance as consisting of a listing of sentences.

Variation in the realisation of pronominalisation therefore paralleled a movement from discourse which was both cohesive and coherent to one which was coherent but not necessarily cohesive. The occurrence of ellipsis can be said to have partially depended on the extent to which the discourse was designed by the learner to be cohesive.

However, whether or not second language learners shifted because of the cohesive nature of their discourse was not as interesting as the simple fact that they **did** shift on some linguistic variables as the organisation of discourse or cohesiveness of the discourse varied.

The fact that even elementary learners shifted on some linguistic variables came very close to lending full support to one of the axioms in Tarone which ultimately goes back to the work of Labov (1969). Tarone expresses the axiom in the following way:

> "There are no single-style speakers. Every speaker shifts linguistic and phonetic variables as the situation and topic change" (1983:13)

To say that even elementary second language learners do shift on some variables is to lend support to one of the Labov/Tarone axioms but this did not necessarily imply that some or indeed all of the Labov/Tarone axioms were also corroborated by evidence from this study. For example, the written mode

which came closest to Tarone's formal style did not necessarily attract the most accurate target language forms as might have been expected on the basis of the Labov/Tarone framework.

The analysis of the performance of the elementary group showed that there was not much of a difference in terms of grammatical accuracy between the performance of the same subjects in speech and writing. But the difference between speech and writing in this study occurred in the range of variants used by the subjects. The small range of variants in the written medium implied that the subjects were exploiting their most current IL knowledge, this however did not necessarily result in an increase in grammatical accuracy.

The wide range of variants in speech partially reflected the permeability of IL speech to a number of factors: i.e. language universals, the L1 and L2 of the subjects. The multiplicity of these influences resulted in an occurrence of a wide range of variants. To sum up the performance of elementary second language learners was variable depending on the nature of the linguistic structure and the nature of the discourse mode, i.e. whether the medium was speech or writing.

8.2 Intermediate Subjects

If the elementary group was more sensitive to higher-order variables (discourse organisation) and some lower-order variables such as linguistic structure, the intermediate subjects were more sensitive to lower-order variables such as linguistic context only.

One of the lower-order variables which turned out to be the most powerful determinant of variability for the intermediate

group was linguistic context. Clearly, Tarone's observation that there were some linguistic contexts which "facilitate" the use of target language variants more than others was borne out (1988:66).

For example, it was shown that when pronouns are functioning as grammatical subjects and immediately precede the main verb they attract verbal inflection much more frequently than when a pronoun is separated by an adverbial from the main verb. The performance of intermediate subjects was the not only variable due to lingusitic context, but the degree of variability was also affected by the type of lingusitic structure. The intermediate subjects were more variable when using the 3rd person singular than when using spatial and directional prepositions.

It has been shown that the performance of intermediate subjects was rendered variable by lower-order variables such as the nature of lingusitic context and the type of linguistic structure much more than higher-order variables such as discourse organisation.

8.3 Advanced Subjects

If variation is an outstanding feature of second language learners the problem which had to be overcome when dealing with highly advanced subjectss whose production was almost indistinguishable from that of native speakers was how to: (1) detect the variation (2) analyse the variability when it was detected.

An analysis of the performance of the advanced group revealed that an assessment of the learners' knowledge in terms

of grammatical accuracy was not sufficient. The performance of the group should be measured in terms of control via "temporal variables" such as rate of speech.

The importance of measuring both knowledge and control highlighted the conclusion that contrary to Bialystok and Sharwood Smith (1985) knowledge and control were not independent dimensions; a certain degree of interaction can be expected to occur between the two. The performance of two of the intermediate subjects showed that their grammatical accuracy is adversely affected by their high rate of speech. More evidence is however required on this issue.

The difference between these two subjects and the rest of the advanced group was finally attributed to differences in personality. The two subjects with a higher-rate of articulation and lower grammatical accuracy were described as "correctors" as opposed to the rest of the subjects with a lower rate of articulation and a higher grammatical accuracy who were described as "planners" following Seliger (1980). But this was not intended to imply that variability among highly advanced subjects can only be measured and assessed in terms of personality differences between subjects.

Acceptability judgements revealed a certain degree of indeterminacy which was not readily evident in production. But as pointed out in the thesis acceptability judgements may prove to be a powerful way of modelling the competence of advanced subjects but not necessarily that of early second language learners.

8.4 Recommendations about Future Research

It is proper to bring this study to an end by commenting on two important aspects of studies in interlanguage variability, i.e. the procedures for selecting linguistic structures which are investigated in variability studies and the procedures for analysing the data collected when attempting to elicit the intended structures.

This study is not alone in analysing seemingly unrelated areas of interlanguage. Tarone (1987) points out that most of her research in variability in second language acquisition has looked at a number of discrete areas in the grammar of second language learners which demonstrate variability. The main reason behind the selection of specific linguistic structures was whether they were known or expected to be variable and not whether they were related or not. It is suggested that an attempt should be made to move away from studying discrete linguistic areas to selecting structures which are linguistically related. A study of related areas can be easily achieved if one takes into account findings from a number of different studies. For example, second language learners are known to be variable in the way they use pronouns to express deictic or anaphoric functions (Klein 1986). Similarly, there is evidence that second language learners are variable in their use of verbal inflections as evidence from this study (and many others) indicate. A study which seeks to preempt the criticism that the areas being investigated are discrete and unrelated might for example, investigate how the use of deictic or anaphoric expressions affects verbal inflection. For instance, it may turn out that second language learners are more accurate in their use of verbal

inflection when using pronouns to mark deixis than when using pronouns to mark anaphoric relations. Such a study may show how the degree of inter-relatedness of various parts of the interlanguage system results in variable accuracy.

Variation studies have frequently demonstrated that one of the most powerful sources of variability is linguistic context. But, the studies which report on the effectiveness of linguistic context have overlooked a number of factors such as discourse position. It may also turn out that the same linguistic context attracts different target language variants depending on the position of the linguistic context in the discourse. It may be the case that linguistic contexts embedded in discourse initial positions may attract more target language variants than the same linguistic contexts in discourse medial positions. Although linguistic contexts in discourse initial positions may attract more target language variants than linguistic contexts in medial positions, this need not necessarily imply that linguistic contexts in medial positions will attract more target language variants than those embedded in discourse final positions.

One way in which the varying effects of linguistic contexts may be explained is through the construct of planning. It can be argued that discourse segments in discourse initial positions are salient in the mind of the learner and hence tend to be more planned than segments in discourse medial positions. In as much as a learner may produce more planned discourse in discourse initial positions because segments in discourse initial positions may be more plannable than those in medial positions, it is also likely that the same learner may also pre-plan how to bring his discourse to an end. Thus linguistic contexts in

discourse final positions may be more accurate than those in medial positions. Such a view of planning enables us to talk of a U shaped planning curve which captures the degree to which planning fluctuates (or is uneven) depending on whether the learner is beginning a narrative or signalling that he is bringing the narrative to an end.

In as much as the plannability of discourse may vary depending on the position of the segment in the discourse, it is also likely that gender differences may affect whether or not second language learners are going to use unplanned or planned discourse in the same situational context. If forms which have connotations of a higher degree of plannedness are more "prestigious" than those which have connotations of unplanned discourse it may be the case that prestigious forms associated with planned discourse may occur more frequently in the interlanguage of one gender more than in the interlanguage of the other gender. In other words, the interlanguage of one gender may be situated more at the planned end of the planning continuum while the interlanguage of the other gender may be situated more at the unplanned end of the planning continuum. It is not surprising that gender differences may have an effect on the use of planned or unplanned discourse because it was shown that personality differences may also partially determine whether the performance of second language learners is going to be planned or unplanned. Studies using a limited number of subjects like this one may benefit by using fine tuned analyses which take into account gender and personality differences as potential sources of variabiilty.

In conclusion this study has demonstrated that further

sources of variability can be identified, if the effects of the same linguistic contexts in different discourse positions are compared and in addition to personality differences gender differences are taken into account as well.

BIBLIOGRAPHY

Abraham, R (1984) "Patterns in the use of the present tense third person singular -s by university - level ESL Speakers". Tesol Quarterly, Vol. 18, No. 1 1984:55-69.

Adjemian, C (1976) "On the nature of interlanguage systems" in Language Learning 26:297-320.

Andersen, R.W (1977) "The impoverished state of cross-sectional morpheme acquisition/accuracy methodology" (or The Leftovers are more nourishing than the main course), Working Papers in Bilingualism, 14: 47-82.

---- (1984) "The one-to-one principle of interlanguage construction" Language Learning, 34: 77-95.

---- (1989) The theoretical status of variation in interlanguage development in Gass, Madden, Preston and Selinker 43-64.

Andersen, J.M. (1977) On Case Grammar London: Croom Helm

Bailey, C.J.N (1973) Variation and Linguistic Theory Arlington V.A. Center for Applied Linguistics.

(1989) "theoretical implications of the acquisition of English simple past and past progressive: putting together the pieces of the puzzle" in Gass et al (eds):101-124.

Baines, D (1976) From Communication to Curriculum Harmondsworth: Penguin.

Barko, L (1987) Interlanguage across academic contexts. English for Specific Purposes Vol. 6, No. 2: 157 -

Beebe, L.M. (1977) "The influence of the listener on code-switching" Language Learning 27, 2: 321-340.

---- (1980) "Sociolinguistic variation and style-shifting in

second language acquisition". Language Learning 30,2: 433-448.

---- (1988) Issues in Second Language Acquisition Newbury House, Rowley, Mass.

Zuengler, J (1983) "Accommodation Theory: an explanation of style-shifting in second language dialects." In N. Wolfson and E. Judd (eds):195-214.

Giles, H (1984) Speech Accommodation Theories: A discussion of second language acquisition. International Journal of the Sociology of Language, 46: 5-32.

Bever, T (1970) The Cognitive basis for linguistic structures. In Hayes, J ed. Cognition and the development of language New York: Wiley 277-360.

Bell, A (1984) "Language style as audience design" Language in Society, 13:145-204.

Bialystok, E (1987) "A theoretical model of second language learning" Language Learning 28:69-83.

---- (1979) "Explicit and implicit judgements of L2 grammaticality" Language Learning 29:81-103.

---- (1981) "The role of linguistic knowledge in second language use". Studies in Second Language Acquisition 4:31-45.

---- (1982) "On the relationship between knowing and using linguistic forms" Applied Linguistics 3.(3)181-206 and M. Sharwood Smith 1985. "Interlanguage is not a state of mind" Applied Linguistics 6,(2)101-117.

Bley-Vroman, R (1983) "The comparative fallacy in interlanguage studies: the case of systematicity" Language Learning 33(1):1-17.

---- (1986) "Hypothesis testing in second language acquisition theory" Language Learning, 36:353-376.

---- (1988) The fundamental character of foreign language learning in Rutherford and Sharwood Smith (eds):15-28.

Bolinger, D (1968) Judgements of grammaticality Lingua 21:34-40

Brown, P and Fraser (1978) Speech as a marker of situation in Klaus, R and H. Giles Social Markers in Speech C.U.P. 1979 33-61.

and Levinson, S universals in Language Usage: Potiteness Phenomena in E.N. Good (ed) Questions and Politeness: Strategies in social interaction, Cambridge: Cambridge University Press.

Bryne, D (1969) Attitudes and Attention. Advances in Experimental Social Psychology 4:35-89

Butterworth, G and E. Hatch (1978) "A Spanish-speaking Adolescent's acquisition of English syntax" in Hatch (ed) 1978.

Cazden, C.H. Cancino, E. Rosansky and J. Schumann (1975) "Second language acquisition sequences in children, adolescents and adults". Final Report US Department of Health, Education and Welfare N.I.E. Office of Research Grants Committee.

Chaudron, C (1983) "Research on metalinguistic judgements: A review of theory, methods and results". Language Learning 33, 3:343-359.

Chimombo, M (1978) "An analysis of the order of acquisition of English grammatical morphemes in a bilingual child" Working Papers in Bilingualism 18:201-230.

Chomsky, N (1965) Aspects of the theory of syntax: Cambridge, Mass MIT press.

- (1980) Rules and representations New York Columbia Press.

Clark, H.H (1973) "Space, time, semantics and the child." In cognitive development and the acquisition of language T.E. Moore (ed) New York: Academic Press.

Comrie, B (1986) Language Universals and Linguistic Typology Basil Blackwell.

Corder, S.P. (1967) "The significance of learner's errors" IRAL 5:161-170

---- (1971) "Idiosyncratic dialects and error analysis" IRAL 9:147-159.

---- (1973) Introducing Applied Linguistics Penguin

---- (1978) "Language learner language" in J. Richards (ed) Understanding Second and Foreign Language Learning: Issues and Approaches Rowley Mass: Newbury House

---- (1981) Error Analysis and Interlanguage O.U.P.

Cornu, A and Delhaye, M (1987) "Variability in interlanguage reconsidered: LSP vs Non-LSP IL Talk" English for Specific Purposes 6(2): 145-151.

Coppieters, R (1987) "Competence differences between native and fluent non-native speakers" Language

Criper, C (1982) Reaction to the Caroll Paper (1) in Andersen J.C and A. Hughes Issues in Language Testing ELT Documents No. III London British Council.

Davies, A (1982) Introduction to the special issue on Language and Ethnicity. Journal of Multilingual and Multicultural Development Vol. 3, No. 3:153-160.

- (1986) Introduction to Language in Education in Africa Centre for African Studies, University of Edinburgh Seminar Proceedings No. 26.

- C. Criper and A.P.R. Howatt (eds) (1984) Interlanguage Edinburgh University Press.

Dickerson, L (1975) The Learner's interlanguage as a system of variable rules. TESOL Quarterly 9:401-407.

Dickerson, W (1977) "Interlanguage phonology: Current Research and Future Directions" in Interlanguage and pidgins and their Relationship to Second Language Pedagogy (eds). S.P. Corder and E.Roulet. Libraire Droz Neufchatel.

Dechert, Hans W (1980) "Contextual hypothesis testing in speech production" in Dechert and Raupach (eds).

---- (1986) "Pauses and intonation as indicators of verbal planning in second language speech production: two examples from a case study" in Dechert and Raupach (eds).

---- (1984) "How a story is done in a second language" in Faerch and Kasper (eds).

Doke, C.M (1931) "A Comparative Study in Shona Phonetics". University of Witwatersrand Press.

---- (1954) The Southern Bantu Languages London Oxford University Press.

Douglas, D and Selinker, L (1985) "Principles for language tests within the discourse domain theory of interlanguage" Language Testing Vol. 2, No. 2:203-221.

Downes, W (1984) Language and Society London: Fontana.

Dubois, B.L and Crouch, I (1976) "Evaluation of accent convergence and divergence in cooperative and competitive intergroup situations" British Journal of Social Psychology 15:247-252.

Dulay, H and Burt, M (1973) "Should we teach children syntax?" Language Learning 23:245-258.

- (1974) "You can't learn without goofing: an analysis of children's second language errors" in J. Richards (ed)

Error Analysis London: Longman, 95-123

Ellis, R (1982) iscourse processes in classroom L2 development PhD. Thesis University of London.

---- (1982)b "The origins of interlanguage" Applied Linguistics III: 207-23

---- (1984)a Classroom Second Language Development Oxford: Pergamon.

---- (1984)b "Sources of variability in interlanguage" Paper presented at the Interlanguage Seminar in honour of Pit Corder, Edinburgh.

---- (1985) Understanding Second Language Acquisition: Oxford University Press

---- (1986) "Using the English medium in African schools" in Davies, Aed (1986).

---- (1987)a "Interlanguage variability in narrative discourse: Syleshifting in the use of the past tense," Studies in Second Language Acquisition.9 1-28

---- (1987)b Individual learning styles in classroom second language development. Paper presented at the 8th AILA World Congress, Sydney.

---- (1988) "The effects of linguistic environment on the second language acquisition of grammatical rules." Applied Linguistics, 9,3 257-74.

---- (1989) Sources of intralearner variability in Language use and their relationship to second language acquisition. In S. Gass, C. Madden, D. Preston and L. Selinker (eds) Multilingual Matters.

Ellis, R and Roberts, L (1987) Introduction In R Ellis (ed) Prentice Hall International.

Eisensten, M and Starbuck, R (1989) "The effect of emotional investment on L2 production" in Gass et al (eds):125-141

Faerch, C (1980) "Describing interlanguage through interaction: problems of systematicity and permeability" Working Papers on Bilingualism 19:59-78

Faerch, C and G. Kasper (1984) "On identifying communication strategies in interlanguage production" in Faerch and Kasper (eds).
Strategies in Interlanguage Communication
Longman.

Fairbanks, K (1983) Variability in interlanguage. Unpublished Manuscript ESL Program, University of Minnesota.

Fasold, R (1984) "Variation theory and language learning" in Trudgill, P(ed) Applied Sociolinguistics London Academic Press.

Fathman, Ann K (1980) "Repetition and correction as an indication of speech planning and execution processes among Second Language Learners." in Dechert and Raupach (eds):77-85.

Fillmore, Lily Wong (1979) "Individual differences in second

language acquisition" in Fillmore, Charles, J Kempler, Daniel and Wang William (eds) Individual differences in language ability and language behaviour London, New York. Academic Press 203-228.

Fischer, J (1958) "Social influences on the choice of a Linguistic variant" Word 14:47-56.

Fishman, J (1968) "Nationality - Nationism and Nation-Nationism" in Fishman J, Ferguson C, and Jas Gupta (eds) Language Problems of Developing Countries Wiley.

---- (1971) Advances in the sociology of language 1. The Hague: Mouton

Frankel, R and Beckman (1982) Impact: An interaction based method for preserving and analysing clinical transactions: in Explorations in Provider and Patient Interactions ed L Pettigrew Humana.

Gal, S (1979) Language Shift New York: Academic Press.

Gass, S.M. (1983) "The development of L2 intuitions". TESOL QUARTERLY 17:273-291.

- Madden C, Preston, D and L Selinker(eds) (1989) Variation in Second Language Acquisition: Psycholinguistic issues. (vol I) Multilingual matters.

- (1989) Madden, Preston D and L Selinker Variation in second language acquisition: Discourse and Pragmatics (vol II)Multilingual Matters.

Gatbonton, E (1975) Systematic variations in second language speech: A Sociolinguistic Study, PHD Mcgill University.

Gumperz, J.J (1971) Languages in Social Groups Stanford: Stanford University Press.

Giles, H and Powesland, P (1975) Speech Style and Social

Evaluation. New York: Academic Press.

Givon, Talmy (1976) Topic, pronoun and grammatical agreement. In C. Li(ed) Subject and Topic. New York: Academic Press: 149-188

---- (1979) (ed) Syntax and Semantics Vol (12). New York: Academic Press.

Goldman-Eisler, F (1968) Psycholinguistic experiments in spontaneous speech, London. New York: Academic Press

Greenberg, J.H. (1966) "Language universals, with special reference to feature hierachies. "Janua Linguarum, series Minor 59. The Hague Mouton.

Greenbaum, S (1976) ed. Acceptability in Language The Hague Mouton.

Grosjean, F and Deschamps, A (1975) "Analyse contrastive des variables temporalles de L'anglais et du francais", Phonetica 31: 144-184.

Hakuta, K (1974a) "A preliminary report on the development of grammatical morphemes in a Japanese girl learning English as a second language". Working Papers in Bilingualism 3:13-43

- (1974b) "Prefabricated patterns and the emergence of structure in second language learning" Language Learning 24:287-97.

Halliday, M (1978) Language as Social Semiotic" Edward Arnold.

Hatch, E (1978) "Discourse analysis and second language acquisition" in Hatch E (ed) Second Language Acquisition : a book of readings. Rowley Mass: Newbury House.

---- (1983) Psycholinguistics: A second language

perspective Rowley, Mass:Newbury House.

Heaton, J (1975) Beginning Composition through Pictures Longman

Heckler, E (1975) The acquisition of English verb morphology by non-native speakers. PhD dissertation, Michigan State University.

Hill, A (1961) "Grammaticality" WORD 17:1-10

Hudson, R.A. (1980) Sociolinguistics Cambridge University Press.

- (1983) Linguistic Equality CLIE Working Paper No. 1.

Huebner, T (1979) "Order-of-acquisition vs dynamic paradigm: a comparison of method in interlanguage research. "TESOL QUARTERLY 13:21-28.

- (1983) A longitudinal analysis of the acquisition of English Ann Arbor: Karoma Publishers.

---- (1985) "L2 Learners' variable output and language teaching" in Hyltenstam, K and Pienemann (eds) Modelling and Assessing Second Language Acquisition Multilingual Matters 18.

Huddleston, R (1988) An Outline of English Grammar C.UP

Hughes, A and Trudgill, P (1972) English accents and dialects: An Introduction to social and regional varieties of British English Edward Arnold.

Hocket, C.F (1958) A course in Modern Linguistics New York: MacMillan.

Hulstijn, J and Hulstijn, W (1984) "Grammatical errors as a function of processing constraints and explicit knowledge" Language Learning 34:23-34.

Hyltenstam, K (1978) Variability in interlanguage syntax Phonetics Laboratory Working Papers 18:1-79 Department

of General Linguistics, Lund University, Sweden.

Keenan, E.O (1978) "Unplanned and planned discourse". Pragmatics Microfiche 3.1 A3-D2. Department of Linguistics, University of Cambridge.

---- Schieffelin, B.B. (1976) "Topic as a discourse notion: A study of topic in the conversations of children and adults." In C.L1 (ed) Subject and Topic New York.

King, K (1985) "Manpower, Technology and Employment in Africa. Internal and External Policy Agendas" Occasional Paper No. 13, Centre of African Studies University of Edinburgh.

---- (1988) In service training in Zimbabwe. An analysis of the relations amongst education and training; industry and the State. Occasional papers No. 21 Centre of African Studies Edinburgh University.

Kiparsky, P (1972) "Explanation in Phonology". In S. Peters (ed,) Goals of Linguistic Theory. Englewood Cliff's N.J. Prentice Hall.

Klein, W, (1986) Second Language Acquisition Cambridge University Press.

Kowal, S., D.C.O'Connell and Sabca E.J. (1975) " Development of temporal patterning and vocal hesitation in spontaneous narratives" Journal of Psycholinguistic Research 4, 195-207

Krashen, S (1976) "Formal and informal linguistic environments in language learning and language acquisition". TESOL QUARTERLY, 10:157-168.

---- (1977) "The Monitor Model for Adult and Second

Language Performance" in Burt, M, Dulay, H and Finnochairo (eds) Viewpoints on English as a Second Language New York: Regents

---- (1981) Second Language Acquisition and Second Language Learning Oxford:Pergamon Press.

Labov, W. (1969) "Contraction, deletion and the inherent variability of the English copula". Language 45,4.

---- (1970) "The study of language in its social context" Stadium Generale 23:30-87.

---- (1972) Sociolinguistic Patterns. Philadelphia, P.A. University of Pennyslvania Press.

---- and Sankoff, D (eds) Locating Language in Time and Space Macmillan Arnold Press.

Lantolf, J.P and Ahmed, K.M (1989) "Psycholinguistic perspectives on interlanguage variation: A Vygotskyan Analysis" in Gass et al (eds) : 93-109.

Leech, G.N. (1968) Towards a Semantic Description of English Longman.

Le Page, R.B and Tabouret - Keller, A (1982) "Models and stereotypes of ethnicity and language". Journal of Multicultural Multingual Development 3(3):161-92.

Levelt, W.J.M (1974) Formal Grammars in Linguistics and Psycholinguistics. Psycholinguistic Applications Vol. No. 3. The Hague Mouton.

LI, C and Thompson, S (1976) Subject and Topic New York: Academic Press.

Liceras, J (1981) "Markedness and permeability in interlanguage systems". Working Papers in Linguistics.2 University of Toronto.

---- (1985) "The role of intake in the determination of learners' competence". In Gass et al (eds) Input in Second Language Acquisition. Rowley:Massachusetts Newbury House.

Lightbown, P (1983) "Exploring relationships between development and instructional sequences in L2 acquisition." In H. Seliger and M. Long (eds) Classroom Oriented Research in Second Language Acquisition. Rowley, Mass. Newbury House.

Littlewood, W (1981) "Language variation and second language acquisition" in Applied Linguistics, 11 (2) : 150-58.

Long, M and P. Porter (1985) "Group work, interlanguage talk and classroom second language acquisition." TESOL QUARTERLY, Vol. 19, No. 2:207-226.

---- and Sato, C (1984) "Methodological issues in inter-language studies: An interactionist perspective "In Davies, A. Criper, C and Howatt, A.P.R. (eds).

Lyons, J (1968) Introduction to Theoretical Linguistics Cambridge University Press.

---- (1977) Semantics Vol. 1/2 Cambridge University Press.

---- (1984) Language and Linguistics Cambridge University Press.

Martinet, A (1962) "Towards a functional syntax" In A Functional View of Language. Oxford University Press.

McDonough, S (1986) Psychology in foreign language teaching George Allen and Unwin

McGinley, K (1987) "The future of English in Zimbabwe" World Englishes, Vol 6, No. 2 :159-164.

McLaughlin, B (1980) "Theory and research in second language

learning. An emerging paradigm "language learning 30, 2:331-350

---- (1987) Theories of Second Language Learning London: Edward Arnold.

Miller, J (1985) Semantics and Syntax : parallels and connections C.V.P.

Mougeon, R et al (1979) "Acquisition of English prepositions by monolingual and bilingual (French/English) Ontarian Students in Eckman, F and Hastings, A (eds) Studies in First and Second Language Acquisition. Rowley, Mass: Newbury House.

Nagata, H (1988) "The Relativity of Linguistic intuitions: The effect of repetition on grammaticality judgements" Journal of Psycholinguistic Research, Vol. 17, No. 1.

Nemser, W (1971) "Approximative systems of foreign language Learners." IRAL IX:115-23.

Newmeyer, F.J. (1983) Grammatical Theory Its limits and Possibilities, University of Chicago Press.

Nickel, G "Aspects of error evaluation and grading" in Errata (ed) Svartvick, J. Rotobeckman, Stockholm.

Noordman, L.G.M. (1977) "Inferring from language" Dissertation University of Groningen

Ochs, E (1979) Planned and Unplanned discourse. In T. Givon (ed).

O'Connel, D.C. and Kowal, S (1972) "Cross-linguistic pause and rate phenomena in adult and adolescents" Journal of Psycholinguistic research 1 : 155-164

Oller, J.W and N. Inal (1971) "A close test of English prepositions". TESOL QUARTERLY 5:315-326.

Pavesi, M (1987) "Variability and systematicity in the acquisition of spatial prepositions" In R. Ellis (ed) :73-83.

Pfaff, C.W. "Functional appraoches to interlanguage In First and Second Language Acquisition Processes Pfaff, (ed) Newbury House.

Piaget, J and Intelder, B (1956) The child's conception of space London : Routledge and Kegan Paul

Poplack, S (1980) "The notion of the plural in Puerto Rican Spanish: Competing Constraints on (-s) deletion. In W. Labov (ed) Locating Language in Time and Space. New York: Academic Press.

Preston D, (1989) Sociolinguistics and Second Language Acquisition Basil Blackwell.

Quirk, R, Greenbaum, S, Leech, G., Svartvick (1985) A Comprehensive Grammar of the English Language London : Longman

Rampton, B (1987) "Stylistic variability and not speaking "normal English". Some post Labovian approaches and their implications for the study of interlanguage". In R. Ellis (ed): 47-59

Sankoff, D and Labov, W (1979) "on the uses of variable rules" Language in Society ' : 189-222

Schachter, J (1986) In search of systematicity in interlanguage production. Studies in Second Language Acquisition 8, 119-34.

---- A.F. Tyson and F.J. Diffley (1976). "Learner intuitions of grammaticality". Language Learning 26:67-76.

Schmidt, R.W (1980) "Interaction, acculturation, and the acquisition of communicative competence: A case study of an Adult". In N. Wolfson and E. Judd (eds). Sociolinguistics and Language Acquisition. Rowley, MA: Newbury House.

---- "The role of consciousness in second language learning". (to appear in applied linguistics)

---- and S. Frota, (1986) "Developing basic conversational ability in a second language: a case study of an adult learner of Portuguese". In R Day (ed) Talking to Learn: conversation in second language acquisition. Rowley MA: Newbury House.

Schumann, J (1978) The Pidginization Process: A Model for Second Language Acquisition. Rowley, Massachusetts, Newbury House.

---- (1982) "Simplification, transfer and relexification as aspects of pidginization and early second language acquisition" Language Learning 28:367-380.

---- (1986) "Locative and Directional Expressions in basilang Speech" Language Learning Vol. 36 No. 3:277-293

Scotton, C.M. (1972) Choosing a Lingua Franca in an African Capital Linguistic Research Inc.

---- (1976) The role of norms and other factors in language choice in work situations in three African cities (Lagos, Kampala and Nairobi). In Language in Sociology 201-232 Ed. Verdoot, A and Kjolseth, R Institut de Linguistique de Louvain.

Seliger, H.W. (1980) "Utterance planning and correction behaviours: Its function in the grammar construction

process for second language learners" in Dechert and Raupach (eds):87-99.

Selinker, L (1969) "Language transfer" General Linguistics, Vol. IX No. 2: 671-92.

---- (1987) "Interlanguage " International Review of Applied Linguistics 10, 201-31.

---- and Douglas, D (1985) "Wrestling with context in interlanguage theory". Applied Linguistics 6, 190-204.

---- and Lamendella, J (1978) "Two perspectives on fossilisation in interlanguage learning" Interlanguage Studies Bulletin 3: 143-91.

Serpell, R (1989) "The cultural context of language learning. problems confronting English teachers in Zambia". In Kennedy, C (ed) Language Planning and English Language Teaching. Prentice Hall.

Skehan, P (1987) "Variability in language Testing" In R. Ellis (ed): 195-207.

---- (1989) Individual Differences in Second Language Learning Edward Arnold Press.

Snow, C and Guus Meijer (1976) "On the secondary nature of syntactic intuitions" In S Greenbaum:163-177.

Sorace, A (1985) "Metalinguistic knowledge and language use in acquisition - poor environments" Applied Linguistics 6:239-254.

---- (1988) "Linguistic intuitions in interlanguage development: the problem of indeterminacy". In James Pankhurst, Sharwood Smith and Paul van Buren (eds) Second Language Studies Foris Publication.

Swan, M (1987) "Non-systematic variability: A self-inflicted

conundrum" In Ellis, R (ed):59-67.

Tarone, E (1979) "Interlanguage as chameleon" Language Learning 29, 1:181-191.

---- (1982) "Systematicity and attention in interlanguage" Language Learning 32:69-82.

---- (1983) "On the variability of interlanguage systems". Applied Linguistics 4/2:143-163.

---- (1985) "Variability in interlanguage use: a study of style-shifting in morphology and syntax". Language Learning 35,3:373-404.

---- (1988) Variation in Interlanguage London: Edward Arnold.

---- U. Frauenfelder and L Selinker (1976) "Systematicity/ variability and stability/instability in interlanguage systems" In Language Learning 4 (special issue) e.d. H.D. Brown:93-134.

---- B Parrish "Task-related variation in interlanguage: the case of articles" Language Learning.

Towell, R "Variation and progress in the language development of advanced learners of a foreign language" in R Ellis e.d. :113-129.

Traugott, E (1974) "Exploration in Linguistic elaboration: language change, language acquisition and the genesis of spatio-temporal relations" In Anderson, J and Jones C (eds) Historical Linguistics 1. Amsterdam, North Holland

Vigil, N.A. and J.N. Oller (1976) "Rule fossilisation: A tentative model" Language Learning 26 (2):281-296.

Wagner-Gough, J (1978) Comparative studies in second language learning, in Second Language Acquisition ed E. Hatch, Rowley, Mass: Newbury House.

Widdowson, H, (1975) The significance of simplification. Studies in Second Language Acquisition, 1, 11-21

White, L, (1985) "The "pro-drop" parameter in adult second language acquisition". Language Learning, 35, 47-61.

White, L, (1987) "Markedness and second language acquisition, the question of transfer" Language Learning, 35,47-61.

Williams, J (1989) "Pronoun copies, pronominal anaphora and zero Anaphora" In Gass et al (eds): 153-190.

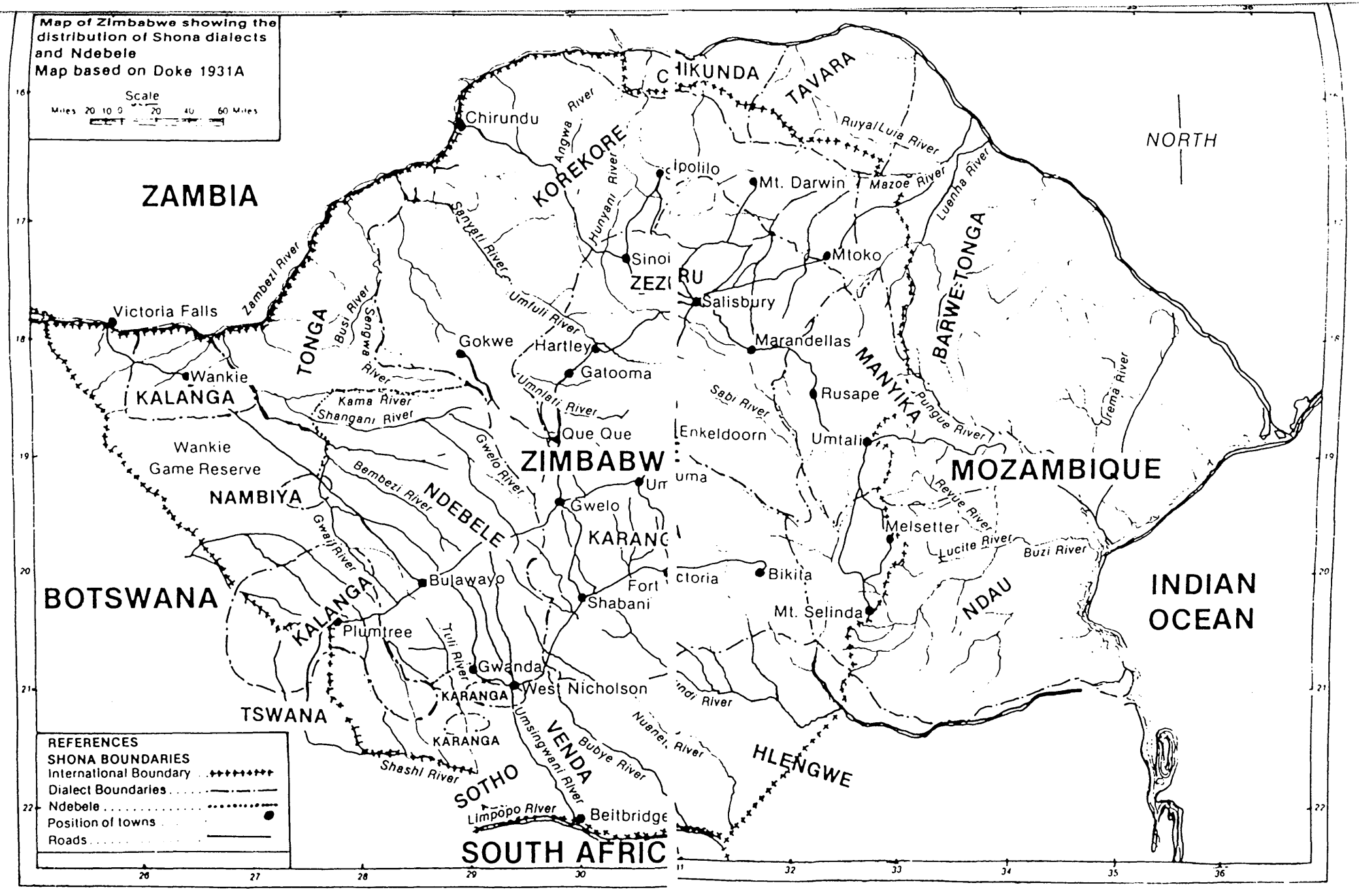
Wode, H (1976) "Development sequences in naturalistic L2 acquisition" Working Papers on Bilingualism 11:1-13.

Young, R (1986) "The acquisition of a verbal repertoire in a second language". Penn Working Papers in Educational Linguistics , 2 (1) 85-119

---- (1988) Variation and the interlanguage hypothesis. Studies in Second Language Acquisition

---- (1989) "Ends and Means: Methods for the Study of interlanguage variation" In S Gass et al (eds): 65-93.

Zuengler, J (1982) "Applying Accommodation Theory to variable performance data in L2" Studies in Second Language Acquisition 4 (2) : 181-92.


Map of Zimbabwe showing the distribution of Shona dialects and Ndebele
Map based on Doke 1931A
Scale
Miles 20 10 0 20 40 60 Miles
NORTH
ZAMBIA
BOTSWANA
MOZAMBIQUE
INDIAN OCEAN
SOUTH AFRIC
ZIMBABW
Chirundu
Victoria Falls
Wankie
Wankie Game Reserve
Gokwe
Hartley
Gatooma
Que Que
Bulawayo
Plumtree
Gwanda
West Nicholson
Shabani
Beitbridge
Salisbury
Mt. Darwin
Mtoko
Marandellas
Rusape
Umtali
Enkeldoorn
Melsetter
Bikita
Mt. Selinda
KOREKORE
TONGA
KALANGA
NAMBIYA
NDEBELE
KARANGA
TSWANA
VENDA
SOTHO
HLENGWE
MANYIKA
BARWE
NDAU
TAVARA
Zambezi River
Angwa River
Hunyani River
Sanyati River
Umfuli River
Busi River
Sengwa River
Kama River
Shangani River
Gwelo River
Umniati River
Bembezi River
Gwaai River
Tuli River
Umsingwani River
Budye River
Shashi River
Limpopo River
Ruya/Luia River
Mazoe River
Luenha River
Sabi River
Pungue River
Revue River
Lucite River
Buzi River
REFERENCES
SHONA BOUNDARIES
International Boundary
Dialect Boundaries
Ndebele
Position of towns
Roads

PRIMARY SCHOOLS .....

ATTENDED .....

ADDRESS .....

.....

.....

DATES From..... To .....

SECONDARY SCHOOLS .....

ATTENDED .....

ADDRESS .....

.....

.....

DATES From .....To.....

SECTION B: FOR UNIVERSITY ONLY

FACULTY DEGREE COURSE TAKEN

SECTION C:

CONTACT ADDRESS .....

DURING DECEMBER .....

HOLIDAYS .....

TEL NO .....

SECTION D

FATHER'S PROFESSION .....

MOTHER'S PROFESSION .....

1. WHAT LANGUAGE(S) DO YOUR PARENTS USE WHEN TALKING TO YOU? PLEASE TICK

SHONA ENGLISH NDEBELE OTHER SPECIFY

2. WHAT LANGUAGE(S) DO YOU FREQUENTLY USE WHEN TALKING TO YOUR PARENTS AT HOME ? PLEASE TICK

SHONA ENGLISH NDEBELE OTHER

SPECIFY

3. WHAT LANGUAGE(S) DOES YOUR FATHER USE WHEN TALKING TO YOU AT HOME ? PLEASE TICK

SHONA ENGLISH NDEBELE OTHER

SPECIFY

4. WHICH LANGUAGE DO YOU USE WHEN TALKING TO YOUR FRIENDS IN THE PLAYGROUND AT SCHOOL?

SHONA ENGLISH NDEBELE OTHER

SPECIFY

5. WHAT LANGUAGE(S) DOES YOUR MOTHER USE WHEN TALKING TO YOU AT HOME? PLEASE TICK

SHONA ENGLISH NDEBELE OTHER

SPECIFY

6. DO YOU HAVE A RADIO? YES, NO

7. IF SO, WHICH RADIO CHANNEL DO YOU FREQUENTLY USE?

INSTRUCTIONS

You are going to hear a story about two brothers. Listen carefully because the story is going to be played to you only twice. After the second replay you will be asked some questions.

A description of elicitation Instruments

The Stimulus story

My name is Peter and I've an older brother called John. We live in Belvedere. We both go to the same school together by bus and get off at the Police Station near the beer hall.

Before entering school we visit a grocery shop where we buy some buns and bottles of coca cola. As soon as we arrive at school we join different classes. John is in grade 7 and I'm grade 5.

On most days we don't meet until lunch time. I eat my lunch with John, and then we play a game of football with our friends.

When classes finish, we meet outside the school gates but we don't go straight home. Instead John and I walk to the shopping centre. We watch passers by and visit some clothes shop we don't usually buy anything, but just admire the clothes. If we still have money we get on a bus and go back home.

INSTRUCTIONS GIVEN AFTER A SECOND REPLAY

Now listen to the instructions. John, Peter's brother has finished his primary school and has gone to a boarding school. Peter is still at Warren Park School and does the same things which they used to do with Peter, but now because Peter is away , he does them alone.

Now tell me what John does, beginning with "Everyday Peter....." We are not interested in how grammatically accurate your English is, we want to know how much information you can retell in English.

MORPHOLOGY: THIRD PERSON SINGULAR.

ACCEPTABILITY JUDGEMENTS

INSTRUCTIONS

Read each of the following sentences carefully. Make up your mind whether each of the sentences is written in good or bad English. If the sentence is written in good English put a tick in the appropriate box like this . If you are unsure put a question mark like this ?

Pay special attention to the underlined words. Give your answers as quickly as you can. Do not change your mind, we are interested in your first reaction to the sentences.

EXPERIMENTAL SENTENCES

1. John walks to school every morning.
2. Every morning John's father buys a newspaper before going to work.
3. The fact that Zimbabwe sells tobacco to South Africa surprises many people.
4. He plays football everyday after school.
5. Mr Joshua Nkomo is fat because he eats a lot of meat.
6. Peter lives in Mutare, but he work in Harare.
7. Mr Nkomo, President of ZAPU usually meet members of his party in Bulawayo.
8. Peter usually enjoy walking to town on Saturday.
9. Robert Mogabe, the President of Zimbabwe, likes reading when he does not have any work to do.
10. She send her mother $ 10 every month so that she can buy food for her children.
11. He work hard after school doing his home work.

12. Peter sell tomatoes during the holiday to get money for schoolfees.

ACCEPTABILITY JUDGEMENTS: SPATIAL AND DIRECTIONAL PREPOSITION

INSTRUCTIONS

Read each of the following carefully. Make up your mind whether each of the sentences is written in good or bad English. If the sentence is written in good English put a tick in the appropriate box like this . If you think it is written in bad English put a cross like this ... If you are unsure put a question mark like this?

Pay special attention to the underlined words in each sentence. In some of the sentences there is a "dash", again make up your mind whether you think the sentence is correct , wrong or not sure when there is no word written on the dash.

EXPERIMENTAL SENTENCES

1. When I met Peter he was coming from town.
2. The policemen are going to the district headquarters to get their pay.
3. I was travelling to Marondera when I met your sister.
4. I saw a thief running away from the police yesterday.
5. Peter was late for school yesterday, so he stood at the door for a long time because he was afraid to knock.
6. I saw her getting water from a dirty river.
7. We made a big trip_____ Mrewa yesterday.
8. We get our water to drink____ the river which is five kilometers away.
9. I did n't have money for lunch so I had to borrow some____ a friend of mine.

10. I went___the headmaster's office to get my end of term report.

11. When Peter arrived_____ the wedding he parked his car under a tree.

12. There were many students coming ___the headmaster's office during lunch hour.

13. I usually go <u>at</u> the park to play.

14. We travelled <u>at</u> my grandmother's place for Christmas.

15. Every Friday my father drives <u>at</u> the village to visit my mother and younger brothers.

16. Mary has just returned <u>at</u> Zimbabwe after spending a few weeks in Botswana.

17. She does not have money to pay for the bus so she always walks <u>at</u> school everyday

18. I went <u>on</u> Warren Park to play football with my friends.

19. We are going <u>in</u> the village to spend our Christmas holiday.

20. My father drives <u>on</u> work everyday early in the morning.

—

LEVEL ONE ACCEPTABILITY JUDGEMENTS SCORES EXPRESSED IN PERCENTAGES IN -TIME AND +TIME: 3RD PERSON SINGULAR

Subject no.	-Time	+Time
1.	25	25
2.	50	83.33
3.	8.33	41.66
4.	56	58.33
5.	58.33	25
6.	38.33	33.33
7.	-	-
8.	41.66	25.00
9.	33.33	33.33
10.	33.33	41.66
11.	16.66	50
12.	41.33	25
13.	41.66	50
14.	0.00	16.66
15.	33	51.66

N= 14

MORPHOLOGY ACCEPTABILITY JUDGEMENTS

LEVEL TWO

Subject NO.	in -Time(Unplanned)	+Time (Planned)
30.	-	-
31.	50	50
32.	50	83
33.	16	16
34.	50	58
35.	50	25
36.	0	58.33
37.	25	75
38.	50	33
39.	66.66	58.33
40.	50	50
41.	33	8.33
42.	58.33	50
43.	41.16	41.16
44.	66.66	75
45.	41.66	58.33
46.	41.66	66.66
47.	41.66	50
48.	33.33	50
49.	71.42	66.66
50.	41.66	50
51.	50.00	83.33
52.	50.00	41.66
53.	33.33	58.33
54.	33.33	58.33

55.	41.66	83.33
56.	66.66	58.33
57.	41.66	50
58.	25	83.33
59.	41.16	25

N = 29

LEVEL THREE

ACCEPTABILITY JUDGEMENTS

Subject No	-Time	+Time
60.	41	92
61.	75	83
62.	75	100
63.	67	92
64.	58	50
65.	100	100
66.	83	100
67.	67	100
68.	75	100
69.	42	83
70.	75	100

N = 11

LEVEL 1

ACCEPTABILITY JUDGEMENTS : SPATIAL AND DIRECTIONAL PREPOSITIONS

SCORES IN PERCENTAGES

Subject No.	-Time	+Time
1.	20	35
2.	30	40
3.	25	25
4.	35	65
5.	30	40
6.	35	45
7.	40	5
8.	30	30
9.	40	30
10.	10	40
11.	-	-
12.	-	-
13.	-	-
14.	25	25
15.	66	15
16.	25	35
17.	50	50
18.	30	30
19.	-	-
20.	35	35
21.	-	-
22.	45	30
23.	45	30
24.	35	30
25.	30	30
26.	45	20

27.	30	20
28.	20	35

N = 23

LEVEL TWO

ACCEPTABILITY JUDGEMENTS: SPATIAL AND DIRECTIONAL PREPOSITIONS

Subject No.	-Time	+Time
30.	60	35
31.	80	70
32.	75	50
33.	30	80
34.	45	70
35.	-	-
36.	-	-
37.	50	65
38.	50	70
39.	100	80
40.	60	80
41.	25	65
42.	80	70
43.	40	50
44.	70	75
51.	60	85
52.	50	75
53.	40	25
54.	85	100
55.	-	-
56.	-	-
57.	-	-
58.	-	-
59.	80	90

N = 18.

LEVEL THREE

ACCEPTABILITY JUDGEMENTS PREPOSITIONS

Subject No.	-Time	+Time
61.	90	85
62.	70	60
63.	85	90
64.	60	60
65.	90	70
66.	95	70
67.	70	65
68.	-	-
69.	-	-
70.	80	85
71.	95	85
72.	85	90
73.	95	95
74.	100	90
75.	90	60
76.	55	100
77.	70	70
78.	85	80
79.	95	85
80.	70	70
81.	60	75
82.	50	55
83.	85	65
84.	-	-
85.	90	65
86.	80	80
87.	55	65

88.	100	90
91.	60	65

N=26

SPATIAL AND DIRECTIONAL PREPOSITIONS

RAW SCORES IN PERCENTAGES

ORAL

Subject No.	AT	TO	FROM
1.	0	42.85	20
2.	0	33	0
3.	0	33	0
4.	0	12.5	20
5.	0	20	0
6.	60	83.33	0
7.	-	20	0
8.	50	66.66	40
9.	25	37	0
10.	0	60	16.6
16.	37.5	16	25
17.	50	14	40
18.	20	16	0
19.	0	50	0
20.	0	42	0
21.	0	18	0
22.	20	20	0

N= 17

WRITTEN

SPATIAL AND DIRECTIONAL PREPOSITIONS

RAW SCORES IN PERCENTAGES

Subject No.	AT	TO	FROM
1.	20	42.85	20
2.	0	33	0
3.	20	33	0
4.	15	12.5	20
5.	30	20	0
6.	71	83.33	0
7.	50	20	0
8.	85	66.66	40
9.	16	57	0
10.	0	60	16.6
16.	22	16	25
17.	60	14	40
18.	43	16	0
19.	0	50	0
20.	50	42	0
21.	16	18	0
22.	0	20	0

LEVEL TWO

ORAL

Subject NO.	AT	TO	FROM
30.	0	100	87.71
31.	60	100	100
32.	60	100	100
37.	28.57	100	85.71
38.	60	100	75
39.	80	100	100
42.	16.66	100	100
43.	20	100	100
44.	100	75	100
45.	66	66	83.33
46.	40	100	100
47.	50	16.66	100
48.	80	100	100
49.	57.14	60	57.14
50.	14.28	100	0
51.	40	80	100
52.	50	100	100
53.	0	80	83.33
54.	37.5	100	100
55.	0	100	100
56.	14.28	87.5	-
57.	44.44	100	100
58.	80	100	100
59.	60	100	100

N = 24

WRITTEN

LEVEL TWO

Subject No.	AT	TO	FROM
30.	0	0	100
31.	100	66	50
32.	50	25	100
37.	20	66	100
38.	50	100	100
39.	-	-	-
42.	-	-	-
43.	-	-	-
44.	-	-	-
45.	25	66	100
46.	50	50	66
47.	83	66	50
48.	100	100	100
49.	40	100	100
50.	0	100	100
51.	0	100	66
52.	20	100	66
53.	0	100	100
54.	0	100	100
55.	28.57	100	100

N =16

LEVEL THREE

ORAL

Subject No.	AT	TO	From
61.	57.14	40	85.71
62.	100	80	100
63.	100	80	100
64.	40	100	100
65.	14.28	100	100
66.	33	100	100
67.	33	100	100
68.	33	75	100
69.	25	100	100
70.	33	100	100
71.	40	100	100
72.	0	66	-
73.	83.33	-	-
74.	75	100	-
75.	83.33	100	100
76.	75	-	100
77.	100	100	-
78.	100	100	100
79.	80	75	100
80.	100	80	100
81.	83.33	50	-

Intra-group correlations between time 1 (unplanned) and time 2.

The data set is probably too small for the spearman (rank order) correlations to be reliable.

linear:

r	-- correlation coefficient
probr	-- probability of the data sets being UNcorrelated

spearman:

diff	-- sum squared difference in rank ordering
n(sds)	-- the number of standard deviations that diff is away from the expected value of the null hypothesis of no correlation
probd	-- the significance level of this deviation
rs	-- the spearman correlation coefficientt
probrs	-- probability of the data sets being UNcorrelated

a small value of probd or probrs indicates a high probability of correlation (if rs is positive) or anticorrelation (rs negative).

Group 1:

Correlation of results between time 1 and time 2

ALL SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	-0.21	47.4%	396.75	-0.23	82.0%	-0.33	14.7%
INCORRECT	0.29	27.2%	212.00	-1.90	5.8%	0.44	10.5%
UNDECIDED	0.03	91.6%	429.25	0.05	96.1%	-0.41	-41.3%

CORRECT SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	-0.31	22.5%	348.75	-0.60	55.0%	-0.30	24.0%
INCORRECT	-0.02	94.8%	296.00	-1.09	27.8%	-0.08	79.6%
UNDECIDED	-0.16	57.9%	220.50	-1.19	23.4%	-2.63	100.0%

DEVIANT SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	0.39	-11.8%	100.25	-2.74	0.6%	0.36	3.5%
INCORRECT	0.40	-24.9%	113.75	-2.68	0.7%	0.63	1.6%
UNDECIDED	0.25	35.9%	417.75	-0.02	98.5%	-0.45	10.4%

Group 2:

Correlation of results between time 1 and time 2

ALL SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	0.52	0.4%	2435.25	-2.30	2.2%	0.15	43.3%
INCORRECT	0.38	3.5%	2440.50	-2.35	1.9%	0.25	-8.9%
UNDECIDED	0.67	0.0%	3138.25	-0.75	45.2%	-1.27	100.0%

CORRECT SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	0.36	5.0%	2190.00	-2.55	1.1%	0.08	65.7%
INCORRECT	0.21	17.9%	3713.75	-0.56	57.8%	-0.35	5.4%
UNDECIDED	0.55	0.2%	2596.50	0.91	36.5%	-12.88	100.0%

DEVIANT SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	0.66	0.0%	2550.75	-2.22	2.6%	0.25	-4.1%
INCORRECT	0.57	0.1%	3447.00	-1.13	25.8%	0.06	74.3%
UNDECIDED	0.55	0.2%	2523.75	-1.07	28.3%	-2.77	100.0%

Group 3:

Correlation of results between time 1 and time 2

ALL SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	0.47	13.4%	153.00	-0.69	49.1%	-0.46	-26.9%
INCORRECT	0.47	13.4%	84.50	-1.80	7.2%	-0.07	84.6%

CORRECT SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	0.15	66.1%	40.00	-1.59	11.3%	-27.39	100.0%
INCORRECT	0.15	66.1%	100.00	0.99	32.4%	-29.82	100.0%

DEVIANT SENTENCES							
judgement	*linear*		*spearman*				
	r	prob	diff	n(sds)	probd	rs	probrs
CORRECT	0.51	10.7%	36.75	-2.55	1.1%	-0.17	60.7%
INCORRECT	0.51	10.7%	72.75	-1.93	5.3%	-0.41	5.5%

Mean and standard deviation results for acceptibility judgements (morphology)

12 sentences (5 correct, 7 deviant)
65 subjects -- 14 in group 1 (1 - 30)
30 in group 2 (31 - 60)
11 in group 3 (61 - 71)

Higher order moments (ie skewness and kurtosis) are not given and should not be used for this data (population is too small to produce meaningful values).

Group 1:

CORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	5.07	(42.26%)	1.91	(15.89%)	3.93	(32.74%)	1.62	(13.53%)
Correct	3.07	(61.43%)	1.33	(26.69%)	2.29	(45.71%)	1.10	(21.95%)
Deviant	2.17	(31.02%)	2.00	(28.57%)	1.64	(23.47%)	1.11	(15.84%)

INCORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	5.00	(41.67%)	1.85	(15.43%)	5.14	(42.86%)	2.53	(21.10%)
Correct	1.43	(28.57%)	1.29	(25.87%)	1.57	(31.43%)	1.24	(24.74%)
Deviant	3.57	(51.02%)	2.41	(34.45%)	3.57	(51.02%)	1.88	(26.84%)

UNDECIDED JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	1.93	(16.07%)			2.93	(24.40%)		
Correct	0.50	(10.00%)			1.14	(22.86%)		
Deviant	1.43	(20.41%)			1.79	(25.51%)		

Group 2:

CORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	5.47	(45.56%)	1.61	(13.39%)	6.93	(57.78%)	2.25	(18.75%)
Correct	2.23	(44.67%)	1.23	(24.59%)	3.53	(70.67%)	1.38	(27.68%)
Deviant	3.23	(46.19%)	1.63	(23.24%)	3.40	(48.57%)	1.70	(24.36%)

INCORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	5.40	(45.00%)	1.87	(15.61%)	4.30	(35.83%)	1.92	(15.98%)
Correct	2.23	(44.67%)	1.26	(25.13%)	1.30	(26.00%)	1.24	(24.85%)
Deviant	3.17	(45.24%)	1.83	(26.10%)	3.00	(42.86%)	1.75	(25.02%)

UNDECIDED JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	1.13	(9.44%)			0.77	(6.39%)		
Correct	0.53	(10.67%)			0.17	(3.33%)		
Deviant	0.60	(8.57%)			0.60	(8.57%)		

Group 3:

CORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	8.27	(68.94%)	1.96	(16.32%)	11.00	(91.67%)	1.48	(12.31%)
Correct	3.18	(63.64%)	0.57	(11.50%)	4.82	(96.36%)	0.39	(7.71%)
Deviant	5.09	(72.73%)	1.68	(23.95%)	6.18	(88.31%)	1.27	(18.09%)

INCORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	3.73	(31.06%)	1.96	(16.32%)	1.00	(8.33%)	1.48	(12.31%)
Correct	1.82	(36.36%)	0.57	(11.50%)	0.18	(3.64%)	0.39	(7.71%)
Deviant	1.91	(27.27%)	1.68	(23.95%)	0.82	(11.69%)	1.27	(18.09%)

UNDECIDED JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
All	0.00	(0.00%)	0.00	(0.00%)	0.00	(0.00%)	0.00	(0.00%)
Correct	0.00	(0.00%)	0.00	(0.00%)	0.00	(0.00%)	0.00	(0.00%)
Deviant	0.00	(0.00%)	0.00	(0.00%)	0.00	(0.00%)	0.00	(0.00%)

Analysis of variance tables (inter-group).

These tables present an analysis of variance between the three groups for correct judgements only.

The probability value is the probability of the mean scores being equal for each group.

Anova between all groups
– time 1

ALL SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	122.87	2.00	61.43
Within	422.12	62.00	6.81
Total	544.98	64.00	-

F = 9.02, Prob = 0.1%

CORRECT SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	19.84	2.00	9.92
Within	123.69	62.00	2.00
Total	143.54	64.00	-

F = 4.97, Prob = 2.0%

DEVIANT SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	73.17	2.00	36.58
Within	253.82	62.00	4.09
Total	326.98	64.00	-

F = 8.94, Prob = 0.1%

Anova between all groups
– time 2

ALL SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	371.64	2.00	185.82
Within	561.80	62.00	9.06
Total	933.45	64.00	-

F = 20.51, Prob = 0.0%

CORRECT SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	55.45	2.00	27.72
Within	162.31	62.00	2.62
Total	217.75	64.00	-

F = 10.59, Prob = 0.0%

DEVIANT SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	143.72	2.00	71.86
Within	210.21	62.00	3.39
Total	353.94	64.00	-

F = 21.19, Prob = 0.0%

Analysis of variance tables (intra-group)

Analysis of the three subgroups within group 2. The probability value is the probability that the sample means are equal for each subgroup.

Anova between subgroups of group 2
– time 1

ALL SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	4.46	2.00	2.23
Within	73.01	27.00	2.70
Total	77.47	29.00	-

F = 0.82, Prob = 80.2%

CORRECT SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	10.64	2.00	5.32
Within	34.72	27.00	1.29
Total	45.37	29.00	-

F = 4.14, Prob = 5.4%

DEVIANT SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	1.33	2.00	0.67
Within	78.04	27.00	2.89
Total	79.37	29.00	-

F = 0.23, Prob = 41.0%

Anova between subgroups of group 2
– time 1

ALL SENTENCES – INCORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	4.41	2.00	2.20
Within	100.79	27.00	3.73
Total	105.20	29.00	-

F = 0.59, Prob = 91.1%

CORRECT SENTENCES – INCORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	12.65	2.00	6.33
Within	34.71	27.00	1.29
Total	47.37	29.00	-

F = 4.92, Prob = 3.0%

DEVIANT SENTENCES – INCORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	4.30	2.00	2.15
Within	95.87	27.00	3.55
Total	100.17	29.00	-

F = 0.61, Prob = 93.1%

Anova between subgroups of group 2
– time 1

ALL SENTENCES – UNDECIDED JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	0.75	2.00	0.38
Within	66.71	27.00	2.47
Total	67.47	29.00	-

F = 0.15, Prob = 28.2%

CORRECT SENTENCES – UNDECIDED JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	0.39	2.00	0.19
Within	17.08	27.00	0.63
Total	17.47	29.00	-

F = 0.31, Prob = 52.6%

DEVIANT SENTENCES – UNDECIDED JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	2.19	2.00	1.10
Within	31.01	27.00	1.15
Total	33.20	29.00	-

F = 0.95, Prob = 64.1%

Anova between subgroups of group 2
– time 2

ALL SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	7.26	2.00	3.63
Within	144.61	27.00	5.36
Total	151.87	29.00	-

F = 0.68, Prob = 98.0%

CORRECT SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	0.39	2.00	0.19
Within	57.08	27.00	2.11
Total	57.47	29.00	-

F = 0.09, Prob = 17.4%

DEVIANT SENTENCES – CORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	8.69	2.00	4.35
Within	78.51	27.00	2.91
Total	87.20	29.00	-

F = 1.49, Prob = -35.1%

Anova between subgroups of group 2
– time 2

ALL SENTENCES – INCORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	2.01	2.00	1.01
Within	108.29	27.00	4.01
Total	110.30	29.00	-

F = 0.25, Prob = 44.3%

CORRECT SENTENCES – INCORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	2.01	2.00	1.01
Within	44.29	27.00	1.64
Total	46.30	29.00	-

F = 0.61, Prob = 94.1%

DEVIANT SENTENCES – INCORRECT JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	2.57	2.00	1.29
Within	89.43	27.00	3.31
Total	92.00	29.00	-

F = 0.39, Prob = 64.5%

Anova between subgroups of group 2
– time 2

ALL SENTENCES – UNDECIDED JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	4.19	2.00	2.09
Within	71.18	27.00	2.64
Total	75.37	29.00	-

F = 0.79, Prob = 83.9%

CORRECT SENTENCES – UNDECIDED JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	0.66	2.00	0.33
Within	9.51	27.00	0.35
Total	10.17	29.00	-

F = 0.93, Prob = 66.6%

DEVIANT SENTENCES – UNDECIDED JUDGEMENTS			
	variation	degrees of freedom	mean square
Between	1.83	2.00	0.92
Within	31.37	27.00	1.16
Total	33.20	29.00	-

F = 0.79, Prob = 84.5%

LEVEL 1 – mean and standard deviation

LEVEL 1 – CORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	3.70	(61.59%)	1.46	(24.29%)	3.52	(58.70%)	1.91	(31.80%)
Total ungrammatical	3.04	(23.41%)	2.24	(17.20%)	2.30	(17.73%)	1.97	(15.12%)
Ungrammatical - omission	1.09	(21.74%)			1.13	(22.61%)		
Ungrammatical - to/at	1.26	(25.22%)			0.83	(16.52%)		

LEVEL 1 – INCORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	1.22	(20.29%)	0.93	(15.51%)	1.39	(23.19%)	1.24	(20.70%)
Total ungrammatical	6.96	(53.51%)	1.71	(13.12%)	7.52	(57.86%)	2.39	(18.41%)
Ungrammatical - omission	2.70	(53.91%)	1.16	(23.17%)	2.57	(51.30%)	1.66	(33.27%)
Ungrammatical - to/at	2.96	(59.13%)	1.12	(22.44%)	3.26	(65.22%)	1.22	(24.47%)

LEVEL 1 – UNDECIDED JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	1.04	(17.39%)	1.12	(18.70%)	1.09	(18.12%)	1.21	(20.21%)
Total ungrammatical	2.96	(22.74%)	1.65	(12.73%)	3.17	(24.41%)	2.16	(16.62%)
Ungrammatical - omission	1.22	(24.35%)		(20.39%)	1.30	(26.09%)		(26.00%)
Ungrammatical - to/at	0.74	(14.78%)		(16.91%)	0.91	(18.26%)		(20.36%)

LEVEL 2 – mean and standard deviation

LEVEL 2 – CORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	4.60	(76.67%)	0.92	(15.28%)	5.05	(84.17%)	0.92	(15.34%)
Total ungrammatical	7.35	(56.54%)	3.17	(24.36%)	7.65	(58.85%)	3.48	(26.79%)
Ungrammatical - omission	3.15	(63.00%)	1.59	(31.80%)	3.25	(65.00%)	1.79	(35.71%)
Ungrammatical - to/at	2.45	(49.00%)	1.50	(29.98%)	2.30	(46.00%)	1.71	(34.12%)

LEVEL 2 – INCORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	1.10	(18.33%)	0.77	(12.80%)	0.55	(9.17%)	0.67	(11.15%)
Total ungrammatical	4.55	(35.00%)	2.73	(20.99%)	4.55	(35.00%)	3.49	(26.81%)
Ungrammatical - omission	1.40	(28.00%)		(25.61%)	1.35	(27.00%)		(35.37%)
Ungrammatical - to/at	2.15	(43.00%)		(29.17%)	2.50	(50.00%)		(33.17%)

LEVEL 2 – UNDECIDED JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	0.30	(5.00%)	0.56	(9.28%)	0.40	(6.67%)	0.66	(11.06%)
Total ungrammatical	1.10	(8.46%)	1.45	(11.12%)	0.80	(6.15%)	1.21	(9.29%)
Ungrammatical - omission	0.45	(9.00%)		(14.80%)	0.40	(8.00%)		(14.70%)
Ungrammatical - to/at	0.40	(8.00%)		(11.66%)	0.20	(4.00%)		(8.00%)

LEVEL 3 – mean and standard deviation

LEVEL 3 – CORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	5.08	(84.67%)	0.69	(11.47%)	5.24	(87.33%)	0.76	(12.72%)
Total ungrammatical	10.60	(81.54%)	2.24	(17.27%)	10.00	(76.92%)	2.61	(20.06%)
Ungrammatical - omission	3.44	(68.80%)	1.90	(37.98%)	2.64	(52.80%)	2.30	(45.91%)
Ungrammatical - to/at	4.44	(88.80%)	0.94	(18.83%)	4.76	(95.20%)	0.65	(13.00%)

LEVEL 3 – INCORRECT JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	0.76	(12.67%)	0.71	(11.81%)	0.68	(11.33%)	0.79	(13.10%)
Total ungrammatical	1.40	(10.77%)	1.60	(12.31%)	0.64	(4.92%)	1.20	(9.20%)
Ungrammatical - omission	0.76	(15.20%)		(25.47%)	0.44	(8.80%)		(23.38%)
Ungrammatical - to/at	0.48	(9.60%)		(18.00%)	0.08	(1.60%)		(5.43%)

LEVEL 3 – UNDECIDED JUDGEMENTS								
Sentence	*Time 1*				*Time 2*			
	mean		sd		mean		sd	
Grammatical	0.16	(2.67%)	0.37	(6.11%)	0.08	(1.33%)	0.27	(4.52%)
Total ungrammatical	1.00	(7.69%)	1.77	(13.59%)	2.36	(18.15%)	2.70	(20.74%)
Ungrammatical - omission	0.80	(16.00%)		(29.39%)	1.92	(38.40%)		(46.28%)
Ungrammatical - to/at	0.08	(1.60%)		(7.84%)	0.16	(3.20%)		(12.24%)

LEVEL 1 – correlation and t test between omissions and to/at confusion

LEVEL 1 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.45	3.2	-0.52	60.5
Planned	0.23	29.4	1.01	31.8

LEVEL 1 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.09	68.2	-0.76	45.2
Planned	0.16	45.9	-1.58	12.1

LEVEL 1 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.02	94.5	1.69	9.7
Planned	0.15	49.0	1.11	27.2

LEVEL 2 – correlation and t test between omissions and to/at confusion

LEVEL 2 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.45	4.4	1.40	17.1
Planned	0.39	9.3	1.68	10.2

LEVEL 2 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.37	10.9	-1.68	10.0
Planned	0.45	4.6	-2.07	4.6

LEVEL 2 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.39	8.6	0.23	81.8
Planned	0.58	0.8	1.04	30.4

LEVEL 3 – correlation and t test between omissions and to/at confusion

LEVEL 3 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	-0.04	84.5	-2.31	2.5
Planned	0.13	53.6	-4.35	0.0

LEVEL 3 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.07	75.5	0.88	38.3
Planned	-0.11	59.7	1.47	14.8

LEVEL 3 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.17	42.6	2.32	2.5
Planned	0.21	32.1	3.60	0.1

Grammatical – Inter-group analysis of variance: UNPLANNED

Grammatical Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	23.43	2.00	11.72
Within	77.51	65.00	1.19
Total	100.94	67.00	-

F = 9.82, Prob(equal means) = 0.0%

Grammatical Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	2.71	2.00	1.36
Within	44.27	65.00	0.68
Total	46.99	67.00	-

F = 1.99, Prob(equal means) = 29.0%

Grammatical Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	10.48	2.00	5.24
Within	38.52	65.00	0.59
Total	49.00	67.00	-

F = 8.85, Prob(equal means) = 0.1%

Grammatical – Inter-group analysis of variance: PLANNED

Grammatical Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	41.03	2.00	20.52
Within	115.25	65.00	1.77
Total	156.28	67.00	-

F = 11.57, Prob(equal means) = 0.0%

Grammatical Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	9.19	2.00	4.60
Within	59.87	65.00	0.92
Total	69.06	67.00	-

F = 4.99, Prob(equal means) = 1.9%

Grammatical Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	12.52	2.00	6.26
Within	44.47	65.00	0.68
Total	56.99	67.00	-

F = 9.15, Prob(equal means) = 0.1%

Total ungrammatical – Inter-group analysis of variance: UNPLANNED

Total ungrammatical Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	685.96	2.00	11.72
Within	441.51	65.00	1.19
Total	1127.47	67.00	-

F = 50.49, Prob(equal means) = 0.0%

Total ungrammatical Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	373.21	2.00	1.36
Within	279.91	65.00	0.68
Total	653.12	67.00	-

F = 43.33, Prob(equal means) = 0.0%

Total ungrammatical Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	55.76	2.00	5.24
Within	182.76	65.00	0.59
Total	238.51	67.00	-

F = 9.92, Prob(equal means) = 0.0%

Total ungrammatical – Inter-group analysis of variance: PLANNED

Total ungrammatical Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	734.70	2.00	20.52
Within	501.42	65.00	1.77
Total	1236.12	67.00	-

F = 47.62, Prob(equal means) = 0.0%

Total ungrammatical Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	572.61	2.00	4.60
Within	410.45	65.00	0.92
Total	983.06	67.00	-

F = 45.34, Prob(equal means) = 0.0%

Total ungrammatical Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	61.62	2.00	6.26
Within	318.26	65.00	0.68
Total	379.88	67.00	-

F = 6.29, Prob(equal means) = 0.6%

Ungrammatical - to/at – Inter-group analysis of variance: UNPLANNED

Ungrammatical - to/at Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	124.15	2.00	11.72
Within	91.54	65.00	1.19
Total	215.69	67.00	-

F = 44.07, Prob(equal means) = 0.0%

Ungrammatical - to/at Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	76.77	2.00	1.36
Within	91.75	65.00	0.68
Total	168.51	67.00	-

F = 27.19, Prob(equal means) = 0.0%

Ungrammatical - to/at Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	5.20	2.00	5.24
Within	27.07	65.00	0.59
Total	32.28	67.00	-

F = 6.25, Prob(equal means) = 0.7%

Ungrammatical - to/at – Inter-group analysis of variance: PLANNED

Ungrammatical - to/at Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	190.05	2.00	20.52
Within	80.06	65.00	1.77
Total	270.12	67.00	-

F = 77.15, Prob(equal means) = 0.0%

Ungrammatical - to/at Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	132.53	2.00	4.60
Within	91.27	65.00	0.92
Total	223.81	67.00	-

F = 47.19, Prob(equal means) = 0.0%

Ungrammatical - to/at Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	8.25	2.00	6.26
Within	36.39	65.00	0.68
Total	44.63	67.00	-

F = 7.37, Prob(equal means) = 0.3%

Ungrammatical - others – Inter-group analysis of variance: UNPLANNED

Ungrammatical - others Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	49.09	2.00	11.72
Within	41.66	65.00	1.19
Total	90.75	67.00	-

F = 38.30, Prob(equal means) = 0.0%

Ungrammatical - others Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	16.89	2.00	1.36
Within	36.23	65.00	0.68
Total	53.12	67.00	-

F = 15.15, Prob(equal means) = 0.0%

Ungrammatical - others Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	10.48	2.00	5.24
Within	30.39	65.00	0.59
Total	40.87	67.00	-

F = 11.21, Prob(equal means) = 0.0%

Ungrammatical - others – Inter-group analysis of variance: PLANNED

Ungrammatical - others Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	65.50	2.00	20.52
Within	31.02	65.00	1.77
Total	96.51	67.00	-

F = 68.63, Prob(equal means) = 0.0%

Ungrammatical - others Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	30.17	2.00	4.60
Within	39.71	65.00	0.92
Total	69.88	67.00	-

F = 24.69, Prob(equal means) = 0.0%

Ungrammatical - others Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	7.79	2.00	6.26
Within	35.20	65.00	0.68
Total	42.99	67.00	-

F = 7.19, Prob(equal means) = 0.3%

Ungrammatical - omission – Inter-group analysis of variance: UNPLANNED

Ungrammatical - omission Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	76.23	2.00	11.72
Within	172.54	65.00	1.19
Total	248.76	67.00	-

F = 14.36, Prob(equal means) = 0.0%

Ungrammatical - omission Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	46.05	2.00	1.36
Within	104.23	65.00	0.68
Total	150.28	67.00	-

F = 14.36, Prob(equal means) = 0.0%

Ungrammatical - omission Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	6.36	2.00	5.24
Within	88.86	65.00	0.59
Total	95.22	67.00	-

F = 2.33, Prob(equal means) = 21.2%

Ungrammatical - omission – Inter-group analysis of variance: PLANNED

Ungrammatical - omission Sentences – CORRECT Judgements			
	variation	degrees of freedom	mean square
Between	52.40	2.00	20.52
Within	230.12	65.00	1.77
Total	282.51	67.00	-

F = 7.40, Prob(equal means) = 0.3%

Ungrammatical - omission Sentences – INCORRECT Judgements			
	variation	degrees of freedom	mean square
Between	54.27	2.00	4.60
Within	160.36	65.00	0.92
Total	214.63	67.00	-

F = 11.00, Prob(equal means) = 0.0%

Ungrammatical - omission Sentences – UNDECIDED Judgements			
	variation	degrees of freedom	mean square
Between	25.73	2.00	6.26
Within	183.51	65.00	0.68
Total	209.24	67.00	-

F = 4.56, Prob(equal means) = 2.8%

LEVEL 1 – correlation and t test between planned and unplanned

LEVEL 1 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.43	3.9	- 0.34	73.6
Total ungrammatical	0.26	22.3	1.16	25.0
Ungrammatical - omission	0.08	70.8	-0.12	90.5
Ungrammatical - to/at	0.12	57.6	1.64	10.9

LEVEL 1 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.26	22.2	-0.53	60.2
Total ungrammatical	0.42	4.6	-0.90	37.2
Ungrammatical - omission	0.36	9.2	0.30	76.4
Ungrammatical - to/at	0.23	29.1	-0.86	39.5

LEVEL 1 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.16	47.4	-0.12	90.2
Total ungrammatical	0.16	46.5	-0.37	71.0
Ungrammatical - omission	0.15	50.4	-0.25	80.6
Ungrammatical - to/at	0.18	42.2	-0.62	54.1

LEVEL 2 – correlation and t test between planned and unplanned

LEVEL 2 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.14	55.0	-1.51	13.9
Total ungrammatical	0.48	3.1	-0.28	78.3
Ungrammatical - omission	0.27	25.2	-0.18	85.6
Ungrammatical - to/at	0.59	0.6	0.29	77.5

LEVEL 2 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.28	22.8	2.35	2.4
Total ungrammatical	0.32	16.8	0.00	100.0
Ungrammatical - omission	0.09	69.7	0.10	92.1
Ungrammatical - to/at	0.51	2.3	-0.69	49.4

LEVEL 2 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.08	73.4	-0.50	61.8
Total ungrammatical	0.87	0.0	0.69	49.2
Ungrammatical - omission	0.68	0.1	0.21	83.6
Ungrammatical - to/at	0.51	2.0	1.23	22.5

LEVEL 3 – correlation and t test between planned and unplanned

LEVEL 3 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.27	19.5	-0.76	44.9
Total ungrammatical	0.63	0.1	0.85	39.7
Ungrammatical - omission	0.68	0.0	1.32	19.5
Ungrammatical - to/at	0.30	14.0	-1.37	17.7

LEVEL 3 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.36	7.3	0.37	71.3
Total ungrammatical	0.26	20.3	1.86	6.8
Ungrammatical - omission	0.50	1.1	0.91	36.9
Ungrammatical - to/at	0.01	97.5	2.09	4.2

LEVEL 3 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Grammatical	0.27	18.6	0.86	39.4
Total ungrammatical	0.54	0.6	-2.07	4.4
Ungrammatical - omission	0.43	3.2	-2.00	5.1
Ungrammatical - to/at	0.95	0.0	-0.54	59.2

LEVEL 1 – correlation and t test between grammatical and ungrammatical

LEVEL 1 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	-0.34	10.9	1.15	25.8
Planned	-0.14	53.9	2.08	4.3

LEVEL 1 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.01	97.8	-13.85	0.0
Planned	0.02	93.1	-10.66	0.0

LEVEL 1 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.07	74.7	-4.49	0.0
Planned	0.03	90.1	-3.95	0.0

LEVEL 2 – correlation and t test between grammatical and ungrammatical

LEVEL 2 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	-0.07	76.2	-3.64	0.1
Planned	0.02	93.0	-3.15	0.3

LEVEL 2 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.02	92.8	-5.30	0.0
Planned	-0.24	31.4	-4.91	0.0

LEVEL 2 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.09	71.5	-2.25	3.0
Planned	0.35	13.1	-1.26	21.4

LEVEL 3 – correlation and t test between grammatical and ungrammatical

LEVEL 3 – CORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.12	55.4	-11.52	0.0
Planned	-0.40	4.6	-8.58	0.0

LEVEL 3 – INCORRECT JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.12	56.8	-1.79	7.9
Planned	-0.29	15.5	0.14	89.2

LEVEL 3 – UNDECIDED JUDGEMENTS				
Sentence	Correlation		T Test	
	r	prob(no correlation) %	t	prob(equal means) %
Unplanned	0.12	55.6	-2.28	2.7
Planned	-0.20	32.9	-4.12	0.0